STATE OF CONNECTICUT *v.* BRADY GUILBERT
(SC 17948)

Rogers, C. J., and Norcott, Palmer, Zarella, McLachlan, Eveleigh and Vertefeuille, Js.*

Argued February 10, 2011—officially released September 4, 2012

Lisa J. Steele, special public defender, for the appellant (defendant).

John P. Gravalec-Pannone and *Paul J. Narducci*, senior assistant state's attorneys, with whom, on the brief, was *Michael L. Regan*, state's attorney, for the appellee (state).

Charles D. Ray and *Matthew A. Weiner* filed a brief for the Connecticut Innocence Project as amicus curiae.

James E. Coleman, Jr., pro hac vice, *Theresa A. Newman*, pro hac vice, and *Jeremiah Donovan* filed a brief for Neil Vidmar et al. as amici curiae.

Opinion

PALMER, J. A jury found the defendant, Brady Guilbert, guilty of capital felony in violation of General Statutes § 53a-54b (7),[1] two counts of murder in violation of General Statutes § 53a-54a,[2] and assault in the first degree in violation of General Statutes § 53a-59 (a) (1).[3] The trial court rendered judgments in accordance with the jury verdicts and sentenced the defendant to a term of life imprisonment without the possibility of release, plus twenty years. On appeal, the defendant raises two claims. First, the defendant contends that the trial court improperly precluded him from presenting expert testimony on the fallibility of eyewitness identification testimony. The defendant maintains that this court should overrule *State* v. *Kemp*, 199 Conn. 473, 477, 507 A.2d 1387 (1986), and *State* v. *McClendon*, 248 Conn. 572, 586, 730 A.2d 1107 (1999), in which we concluded that the average juror knows about the factors affecting the reliability of eyewitness identification and that expert testimony on the issue is disfavored because it invades the province of the jury to determine what weight to give the evidence. We agree that the time has come to overrule *Kemp* and *McClendon* and, further, that testimony by a qualified expert on the fallibility of eyewitness identification is admissible under *State* v. *Porter*, 241 Conn. 57, 698 A.2d 739 (1997), cert. denied, 523 U.S. 1058, 118 S. Ct. 1384, 140 L. Ed. 2d 645 (1998), when that testimony would aid the jury in evaluating the state's identification evidence. Although we also agree that the trial court improperly precluded the defense from presenting certain expert testimony on the issue of eyewitness identification, we further conclude that the impropriety was harmless. We also reject the defendant's claim that the trial court improperly denied his motions for a mistrial and for a new trial, which stemmed from the state's delayed disclosure of certain allegedly exculpatory evidence. Accordingly, we affirm the judgments of the trial court.

The jury reasonably could have found the following facts. At approximately 11:30 p.m. on October 8, 2004, Cedric Williams and Terry Ross arrived at a bar in New London known as Ernie's Café (bar). Before arriving at the bar, Ross had parked his Volvo station wagon in a nearby municipal parking lot. At approximately 11:45 p.m., William Robinson arrived at the bar. About one hour later, as Robinson walked to the restroom, he was shot in the face and suffered a life-threatening wound. Police and emergency medical personnel transported Robinson first to The William W. Backus Hospital in Norwich and then to Rhode Island Hospital in Providence, Rhode Island. Before transporting him to the hospital, the police asked Robinson who had shot him. Robinson either did not respond to the question or stated that he did not know the identity of the shooter.

At approximately 12:40 a.m. on October 9, 2004, Offi-

cer Jose Olivero of the New London police department received a radio transmission about a disturbance at the bar. As he responded to the call, he saw the defendant running away from the bar, clutching something in both hands. At trial, Olivero testified that the defendant had been wearing light blue sweatpants, a white tee shirt, and a black or dark blue bomber jacket.

At approximately 12:51 a.m., the New London police department received a 911 call about a shooting at the intersection of Hope and Hempstead Streets in New London. Police officers responding to the call found Ross' Volvo station wagon crashed into a tree. Ross and Williams were inside the vehicle, and both had been shot in the head. Williams was pronounced dead at the scene and Ross was taken to Lawrence+Memorial Hospital in New London, where he was pronounced dead. An examiner with the state forensic science laboratory ultimately determined that Ross and Williams had been shot with the gun that had been used to shoot Robinson.

Later that day, the defendant's friend, Gary Holland, drove the defendant to Bronx County, New York. Holland returned to Connecticut at about 5 p.m. and learned from watching television that three people had been shot in New London and that the police were looking for the defendant. Holland called the defendant and informed him of what he had learned. The defendant neither admitted nor denied involvement in the shootings.

On the evening of October 9, 2004, Detective Keith Crandall and Officer George Potts of the New London police department visited Robinson at Rhode Island Hospital. When Potts asked Robinson who had shot him, Robinson responded, "you know who shot me." Potts said that he did not know, and Robinson said, "Fats did it." Potts and Crandall then showed Robinson several photographic arrays, and Robinson identified the defendant as the person who had shot him. Robinson gave a statement to Crandall indicating that he had known the defendant "for a while" and had "had words" with him "a couple of months" earlier. Robinson said that, when he saw the defendant in the bar, he had "a bad feeling and knew something was going to happen." Crandall prepared a written statement, and Robinson signed it. At trial, Robinson denied knowing who had shot him, denied having signed the statement, and denied that the reason why he had picked the defendant's photograph from the array was that the defendant had shot him.

Nine days after the shooting, Lashon Baldwin saw the defendant's photograph in a newspaper and gave a statement to the New London police about the incident at the intersection of Hope and Hempstead Streets. At trial, Baldwin testified to the following. At the time of the shooting, Baldwin and her cousin, Jackie Gomez,

were seated in a car parked on Hempstead Street. Baldwin saw a car traveling down Hempstead Street and, as the car reached Hope Street, she heard three "loud pops." The car then came to a stop after hitting another parked car, and the defendant exited through the back door on the driver's side. The defendant was wearing "a black flight [jacket]" and "a black skully hat." Baldwin recognized the defendant and knew him as "Fats" because she had seen him as a "regular customer" in a donut shop where she had worked for more than one and one-half years. Baldwin and Gomez left the area immediately. Shortly thereafter, Baldwin received telephone calls from family members indicating that Williams, who was Baldwin's cousin, had been in the car on Hempstead Street. Baldwin returned to the area and saw Williams' body in the car. Police were present, but Baldwin did not talk to them because she was "upset" and "scared."

Gomez gave a statement to the police nine days after the shooting. At trial, he testified to the following. At approximately 1 a.m. on October 9, 2004, Gomez was with Baldwin in the car on Hempstead Street when he heard three gunshots. He looked to see what was happening and saw a car drive up Hope Street and hit another car. A person wearing a "black hoodie" and "blue jeans" exited from the car and wiped the door handle with his sleeve. The person came toward the car that Gomez and Baldwin were in, and Gomez recognized him as the defendant. Gomez knew the defendant because they previously had lived together for "quite some time . . . ." Gomez then left the area but returned upon learning that his cousin, Williams, had been shot. Although police were present, Gomez did not speak to them because he was "in shock."

Ten days after the shootings, Scott Lang, who had been at the bar when Robinson was shot, saw the defendant's photograph in a newspaper and recognized him as the person who had shot Robinson. Lang then went to the police and gave a statement. At trial, he testified to the following. On the night of the shooting, Lang was waiting in line to use the restroom at the bar when he was shoved against a door and a shot was fired. Lang was "shoulder to shoulder" with the shooter and observed that he was wearing "a black quilted jacket, possibly North Face." At trial, Lang identified the defendant as the shooter.

On October 14, 2004, police apprehended the defendant in New York. Thereafter, the defendant was tried before a jury and convicted of two counts of murder in connection with the shooting deaths of Williams and Ross, capital felony arising out of that double killing, and assault in the first degree for the shooting of Robinson.[4]

We first address the defendant's claim that the trial court improperly granted the state's motion to preclude expert testimony on the reliability of eyewitness identifications in reliance on our decisions in *Kemp* and *McClendon*. We agree that *Kemp* and *McClendon* should be overruled and that expert testimony on eyewitness identification is admissible upon a determination by the trial court that the expert is qualified and the proffered testimony is relevant and will aid the jury. We also conclude, however, that the trial court's exclusion of the proffered expert testimony in the present case did not substantially affect the verdicts.

The following undisputed facts and procedural history are relevant to our resolution of this claim. Before trial, defense counsel indicated that he intended to call Charles A. Morgan III as an expert on eyewitness identifications. The state filed a motion to preclude Morgan's testimony on the ground that the reliability of eyewitness identifications is within the knowledge of the average juror. The trial court then conducted an evidentiary hearing on the state's motion at which Morgan proffered testimony that he is a medical doctor with "specialty training" in psychiatry and that, for the last seventeen years, he has spent 50 percent of his time researching how stress affects thought processes and memory. In 1997, Morgan published a study showing that, contrary to common belief, memory of traumatic events changes over time. In 2004, he published a study of military personnel who were subject to harsh interrogation techniques during training. The study showed that the subjects' identification of an interrogator was much more accurate after low stress interrogations than after high stress ones.

Morgan testified that stress hormones are detrimental to certain aspects of memory. According to his testimony, high levels of stress impair thinking and memory formation. Morgan explained that there are three phases of memory formation—encoding, storage and retrieval—and that stress can disrupt both encoding and storage. When a subject is exposed to information about the remembered event during the storage phase—for example, when, following the event, the subject discusses the observation with someone else or sees a photograph of the person in the newspaper—the subject may incorporate the information into his or her memory and come to believe that the information actually was obtained at an earlier time. This process is known as retrofitting. Furthermore, Morgan testified that the majority of eyewitness identification researchers agree that there is little or no correlation between confidence and accuracy; in other words, an eyewitness' confidence in the accuracy of an identification is not a reliable indicator of the identification's true accuracy. Although Morgan observed that, if an eyewitness is familiar with a person, the eyewitness' identifica-

tion of that person is likely to be more accurate, he explained that an identification's accuracy may be adversely affected by such factors as the length of time during which the eyewitness was able to observe the person, lighting, distance, and whether the eyewitness was paying attention.

Morgan testified that the effect of stress on memory is not a matter of common knowledge. Although Morgan was not aware of any scientific public opinion polls on the question, he testified that it was his opinion that most laypeople do not know about the concept of retrofitting. Morgan also testified that studies have shown that most jurors mistakenly believe that the more confident someone is of an identification, the more likely the identification is to be accurate.

At the conclusion of the hearing, the trial court granted the state's motion to preclude Morgan's testimony. Although the court's reasoning is not transparent, the court apparently concluded that Morgan's study involving the deleterious effects of stress on the memories of military personnel in an interrogation setting did not meet the standard for the admission of scientific evidence set forth in *State* v. *Porter*, supra, 241 Conn. 68. The court seemed to find that Morgan's theory had not been sufficiently tested, had no known or potential rate of error, lacked consistent standards, and was not generally accepted in the scientific community. The court also appeared to conclude that Morgan's general opinions about the effects of stress on memory, the lack of a correlation between confidence and accuracy of identifications, and the risk of retrofitting were all inadmissible because these matters generally were within the common knowledge of jurors. See *State* v. *McClendon*, supra, 248 Conn. 586; *State* v. *Kemp*, supra, 199 Conn. 477.

Although the trial court granted the motion to preclude Morgan's testimony, the court indicated that it had prepared jury instructions on the reliability of eyewitness identifications and that it would provide a copy of the draft instructions to counsel for their review. Ultimately, the trial court instructed the jury that stress and the receipt of postevent information can reduce the accuracy of an eyewitness identification and that confidence often is not a reliable indicator of accuracy.[5]

On appeal, the defendant contends that the trial court improperly granted the state's motion to preclude Morgan's expert testimony. The defendant argues that we should overrule *Kemp* and *McClendon*, in which we held that expert testimony on the reliability of eyewitness identifications is unnecessary because the average juror knows about the factors affecting the reliability of eyewitness identifications and that expert testimony on the issue is disfavored because it invades the province of the jury to determine what weight to give such evidence. *State* v. *McClendon*, supra, 248 Conn. 586;

State v. *Kemp*, supra, 199 Conn. 477.

We first set forth the legal principles that govern our review. "[T]he trial court has wide discretion in ruling on the admissibility of expert testimony and, unless that discretion has been abused or the ruling involves a clear misconception of the law, the trial court's decision will not be disturbed. . . . In determining whether there has been an abuse of discretion, the ultimate issue is whether the court could reasonably conclude as it did. . . .

"This court recently articulated the test for the admission of expert testimony, which is deeply rooted in common law. Expert testimony should be admitted when: (1) the witness has a special skill or knowledge directly applicable to a matter in issue, (2) that skill or knowledge is not common to the average person, and (3) the testimony would be helpful to the court or jury in considering the issues. . . . In other words, [i]n order to render an expert opinion the witness must be qualified to do so and there must be a factual basis for the opinion. . . .

"It is well settled that [t]he true test of the admissibility of [expert] testimony is not whether the subject matter is common or uncommon, or whether many persons or few have some knowledge of the matter; but it is whether the witnesses offered as experts have any peculiar knowledge or experience, not common to the world, which renders their opinions founded on such knowledge or experience any aid to the court or the jury in determining the questions at issue. . . . Implicit in this standard is the requirement . . . that the expert's knowledge or experience . . . be directly applicable to the matter specifically in issue." (Citations omitted; internal quotation marks omitted.) *Sullivan* v. *Metro-North Commuter Railroad Co.*, 292 Conn. 150, 157–59, 971 A.2d 676 (2009); see also Conn. Code Evid. § 7-2.[6]

"Beyond these general requirements regarding the admissibility of expert testimony, [t]here is a further hurdle to the admissibility of expert testimony when that testimony is based on . . . scientific [evidence]. In those situations, the scientific evidence that forms the basis for the expert's opinion must undergo a validity assessment to ensure reliability. *State* v. *Porter*, supra, 241 Conn. [68]. In *Porter*, this court followed . . . *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), and held that scientific evidence should be subjected to a flexible test, with differing factors that are applied on a case-by-case basis, to determine the reliability of the scientific evidence. . . . Following [*Porter*], scientific evidence, and expert testimony based thereon, usually is to be evaluated under a threshold admissibility standard [relating to] the reliability of the methodology underlying the evidence . . . .

"[I]n *State* v. *Porter*, supra, 241 Conn. 78–80, we expressly recognized that, because the term scientific evidence houses such a large and diverse variety of topics, the formulation of a mechanical evidentiary standard of admissibility designed to apply universally to the many forms scientific evidence may take is an unworkable concept. Rather, the better formulation is a general, overarching approach to the threshold admissibility of scientific evidence . . . . In accordance with this philosophy, we set forth in *Porter* a number of different factors, nonexclusive and whose application to a particular set of circumstances could vary, as relevant in the determination of the threshold admissibility of scientific evidence. . . . In particular, we recognized the following considerations: general acceptance in the relevant scientific community; whether the methodology underlying the scientific evidence has been tested and subjected to peer review; the known or potential rate of error; the prestige and background of the expert witness supporting the evidence; the extent to which the technique at issue relies [on] subjective judgments made by the expert rather than on objectively verifiable criteria; whether the expert can present and explain the data and methodology underlying the testimony in a manner that assists the jury in drawing conclusions therefrom; and whether the technique or methodology was developed solely for purposes of litigation. . . .

"In *Porter*, we also set forth a *fit* requirement for scientific evidence. . . . We stated that the proposed scientific testimony must be demonstrably relevant to the facts of the particular case in which it is offered, and not simply be valid in the abstract. . . . Put another way, the proponent of scientific evidence must establish that the specific scientific testimony at issue is, in fact, derived from and based [on] . . . [scientifically reliable] methodology." (Citations omitted; emphasis added; internal quotation marks omitted.) *Prentice* v. *Dalco Electric, Inc.*, 280 Conn. 336, 342–44, 907 A.2d 1204 (2006), cert. denied, 549 U.S. 1266, 127 S. Ct. 1494, 167 L. Ed. 2d 230 (2007).

This court first addressed the admissibility of expert testimony on eyewitness identification in *State* v. *Kemp*, supra, 199 Conn. 473, in which we concluded that the trial court properly had precluded the testimony of the defendant's expert witness. Id., 479. We reasoned that "the reliability of eyewitness identification is within the knowledge of jurors and expert testimony generally would not assist them in determining the question." Id., 477. We also explained that "[s]uch testimony is . . . disfavored because . . . it invades the province of the jury to determine what weight or effect it wishes to give to eyewitness testimony." (Internal quotation marks omitted.) Id. Although we acknowledged that, "in many cases the determination of guilt or innocence

depends in large part on the credibility assigned to eyewitness identifications, and that in many instances identifications may be unreliable"; id., 478; we recognized that criminal defendants have many protections against the risk of misidentification. Id. We specifically observed that "[t]he weaknesses of identifications can be explored on cross-examination and during counsel's final arguments to the jury." Id. Finally, we noted that the trial court may instruct the jury, as the court had done in *Kemp*, on the critical nature of eyewitness identifications and the various factors that might affect their reliability; see id., 479 and n.3; "including delay, performance under stress and inaccuracy of prior descriptions." Id., 479 n.3.

This court revisited the issue in *State* v. *McClendon*, supra, 248 Conn. 572, a case in which the defendant had sought to introduce an expert witness' testimony that "the confidence of an eyewitness does not correlate to the accuracy of observation, that variables such as lighting, stress and time to observe have an impact on accuracy, that leading questions and the repetition of testimony can increase an eyewitness' confidence but not accuracy, that people remember faces best when they analyze many features and characteristics of the face rather than just one, that misleading police questions can alter memories, and that the most accurate descriptions are given immediately after a crime." Id., 586–87. We concluded that the trial court properly had excluded the proffered testimony because it was "nothing outside the common experience of mankind." (Internal quotation marks omitted.) Id., 586. As we had done in *Kemp*, we observed in *McClendon* that defense counsel had been able to explore weaknesses in the eyewitness identifications on cross-examination; id., 588; and that the trial court had instructed the jury on several factors that could affect the reliability of the identifications.[7] Id., 587.

We now conclude that *Kemp* and *McClendon* are out of step with the widespread judicial recognition that eyewitness identifications are potentially unreliable in a variety of ways unknown to the average juror.[8] This broad based judicial recognition tracks a near perfect scientific consensus.[9] The extensive and comprehensive scientific research, as reflected in hundreds of peer reviewed studies and meta-analyses,[10] convincingly demonstrates the fallibility of eyewitness identification testimony and pinpoints an array of variables that are most likely to lead to a mistaken identification.[11] "[T]he scientific evidence . . . is both reliable and useful." *State* v. *Henderson*, 208 N.J. 208, 283, 27 A.3d 872 (2011). "Experimental methods and findings have been tested and retested, subjected to scientific scrutiny through peer-reviewed journals, evaluated through the lens of meta-analyses, and replicated at times in real-world settings. . . . [C]onsensus exists among the experts . . . within the . . . research community." Id. "[T]he sci-

ence abundantly demonstrates the many vagaries of memory encoding, storage and retrieval; the malleability of memory; the contaminating effects of extrinsic information; the influence of police interview techniques and identification procedures; and the many other factors that bear on the reliability of eyewitness identifications." (Internal quotation marks omitted.) Id.

Courts across the country now accept that (1) there is at best a weak correlation between a witness' confidence in his or her identification and its accuracy,[12] (2) the reliability of an identification can be diminished by a witness' focus on a weapon,[13] (3) high stress at the time of observation may render a witness less able to retain an accurate perception and memory of the observed events,[14] (4) cross-racial identifications are considerably less accurate than same race identifications,[15] (5) a person's memory diminishes rapidly over a period of hours rather than days or weeks,[16] (6) identifications are likely to be less reliable in the absence of a double-blind, sequential identification procedure,[17] (7) witnesses are prone to develop unwarranted confidence in their identifications if they are privy to postevent or postidentification information about the event or the identification,[18] and (8) the accuracy of an eyewitness identification may be undermined by unconscious transference, which occurs when a person seen in one context is confused with a person seen in another.[19] This list is not exhaustive; courts have permitted expert testimony on other factors deemed to affect the accuracy of eyewitness identification testimony.[20]

Although these findings are widely accepted by scientists,[21] they are largely unfamiliar to the average person, and, in fact, many of the findings are counterintuitive.[22] For example, people often believe that the more confident an eyewitness is in an identification, the more likely the identification is to be accurate. Similarly, the average person is likely to believe that eyewitnesses held at gunpoint or otherwise placed in fear are likely to have been acutely observant and therefore more accurate in their identifications. Most people also tend to think that cross-racial identifications are no less likely to be accurate than same race identifications. Yet none of these beliefs is true.[23] Indeed, laypersons commonly are unaware of the effect of the other aforementioned factors, including the rate at which memory fades, the influence of postevent or postidentification information, the phenomenon of unconscious transference, and the risks inherent in the use by police of identification procedures that are not double-blind and sequential.[24] Moreover, although there is little if any correlation between confidence and accuracy, an eyewitness' confidence "is the most powerful single determinant of whether . . . observers . . . will believe that the eyewitness made an accurate identification . . . ." (Citations omitted.) G. Wells et al., "Eyewitness Identification Procedures: Recommendations for Line-

ups and Photospreads," 22 Law & Hum. Behav. 603, 620 (1998).

As a result of this strong scientific consensus, federal and state courts around the country have recognized that the methods traditionally employed for alerting juries to the fallibility of eyewitness identifications—cross-examination, closing argument and generalized jury instructions on the subject—frequently are not adequate to inform them of the factors affecting the reliability of such identifications.

Cross-examination, the most common method, often is not as effective as expert testimony at identifying the weaknesses of eyewitness identification testimony because cross-examination is far better at exposing lies than at countering sincere but mistaken beliefs.[25] An eyewitness who expresses confidence in the accuracy of his or her identification may of course believe sincerely that the identification is accurate. Furthermore, although cross-examination may expose the *existence* of factors that undermine the accuracy of eyewitness identifications, it cannot effectively educate the jury about the *import* of these factors.[26] "Thus, while skillful cross-examination may succeed in exposing obvious inconsistencies in an [eyewitness'] account, because nothing is obvious about the psychology of eyewitness identification and most people's intuitions on the subject of identification are wrong . . . some circumstances undoubtedly call for more than mere cross-examination of the eyewitness." (Citation omitted; internal quotation marks omitted.) *Moore* v. *Keller*, United States District Court, Docket No. 5:11-HC-2148-F (E.D.N.C. March 30, 2012).

Defense counsel's closing argument to the jury that an eyewitness identification is unreliable also is an inadequate substitute for expert testimony. In the absence of evidentiary support, such an argument is likely to be viewed as little more than partisan rhetoric. See, e.g., *Ferensic* v. *Birkett*, 501 F.3d 469, 482 (6th Cir. 2007) ("The significance of [the proffered expert] testimony cannot be overstated. Without it, the jury ha[s] no basis beyond defense counsel's word to suspect the inherent unreliability of the [eyewitnesses'] identifications."). This is especially true if the argument relates to a factor that is counterintuitive.

Finally, research has revealed that jury instructions that direct jurors in broad terms to exercise caution in evaluating eyewitness identifications are less effective than expert testimony in apprising the jury of the potential unreliability of eyewitness identification testimony. See, e.g., *State* v. *Clopten*, 223 P.3d 1103, 1110 (Utah 2009) (social scientists have found that cautionary instructions are not effective in helping jurors to spot mistaken identifications). "[Generalized] instructions given at the end of what might be a long and fatiguing trial, and buried in an overall charge by the court, are

unlikely to have much effect on the minds of [the jurors]. . . . [Moreover], instructions may come too late to alter [a juror's] opinion of a witness whose testimony might have been heard days before. [Perhaps most important], even the best cautionary instructions tend to touch only generally on the empirical evidence. The judge may explain that certain factors are known to influence perception and memory . . . but will not explain how this occurs or to what extent." (Citation omitted; internal quotation marks omitted.) Id., 1110–11; see also H. Fradella, "Why Judges Should Admit Expert Testimony on the Unreliability of Eyewitness Testimony," 2 Fed. Cts. L. Rev. 1, 25 (2007) ("Jury instructions do not explain the complexities about perception and memory in a way [that] a properly qualified person can. Expert testimony . . . can do that far better than [a judge telling the jury about] the results of scientific research in a conclusory manner . . . especially since jury instructions are given far too late in a trial to help jurors evaluate relevant eyewitness testimony with information beyond their common knowledge." [Internal quotation marks omitted.]); R. Wise et al., "A Tripartite Solution to Eyewitness Error," 97 J. Crim. L. & Criminology 807, 833 (2007) ("[J]ury instructions lack the flexibility and specificity of expert testimony. . . . [J]udges' instructions do not serve as an effective safeguard against mistaken identifications and convictions and . . . expert testimony is therefore more effective than judges' instructions as a safeguard." [Internal quotation marks omitted.]).[27]

We now recognize that, contrary to our reasoning in *Kemp* and *McClendon*, expert testimony on the reliability of eyewitness identifications does not "[invade] the province of the jury to determine what weight or effect it wishes to give to eyewitness testimony." (Internal quotation marks omitted.) *State* v. *Kemp*, supra, 199 Conn. 477. An expert should not be permitted to give an opinion about the credibility or accuracy of the eyewitness testimony itself; that determination is solely within the province of the jury. Rather, the expert should be permitted to testify only about factors that generally have an adverse effect on the reliability of eyewitness identifications and are relevant to the specific eyewitness identification at issue.[28]

We depart from *Kemp* and *McClendon* mindful of recent studies confirming what courts have long suspected,[29] namely, that mistaken eyewitness identification testimony is by far the leading cause of wrongful convictions.[30] A highly effective safeguard against this serious and well documented risk is the admission of expert testimony on the reliability of eyewitness identification.[31] See, e.g., J. McMurtrie, "The Role of the Social Sciences in Preventing Wrongful Convictions," 42 Am. Crim. L. Rev. 1271, 1276 (2005) ("[r]esearch . . . has shown that expert testimony on memory and eyewitness identification is the only legal safeguard that is

effective in sensitizing jurors to eyewitness errors"); see also R. Wise et al., supra, 97 J. Crim. L. & Criminology 819 ("expert eyewitness testimony . . . is the only traditional legal safeguard that has shown any efficacy in mitigating eyewitness error").

In summary, we conclude that the reliability of eyewitness identifications frequently is not a matter within the knowledge of an average juror and that the admission of expert testimony on the issue does not invade the province of the jury to determine what weight to give the evidence.[32] Many of the factors affecting the reliability of eyewitness identifications are either unknown to the average juror or contrary to common assumptions, and expert testimony is an effective way to educate jurors about the risks of misidentification.[33] To the extent that *Kemp* and *McClendon* held to the contrary, they are hereby overruled.[34]

In light of the numerous scientifically valid studies cited previously in this opinion, we also conclude that, as a general matter, competent expert testimony predicated on those studies' findings satisfies the threshold admissibility requirement of *State* v. *Porter*, supra, 241 Conn. 57, that such testimony must be based on "scientific knowledge rooted in the methods and procedures of science"; (internal quotation marks omitted) id., 64; at least with respect to the following propositions: (1) there is at best a weak correlation between a witness' confidence in his or her identification and the identification's accuracy; (2) the reliability of an identification can be diminished by a witness' focus on a weapon; (3) high stress at the time of observation may render a witness less able to retain an accurate perception and memory of the observed events; (4) cross-racial identifications are considerably less accurate than identifications involving the same race; (5) memory diminishes most rapidly in the hours immediately following an event and less dramatically in the days and weeks thereafter; (6) an identification may be less reliable in the absence of a double-blind, sequential identification procedure; (7) witnesses may develop unwarranted confidence in their identifications if they are privy to postevent or postidentification information about the event or the identification; and (8) the accuracy of an eyewitness identification may be undermined by unconscious transference, which occurs when a person seen in one context is confused with a person seen in another.[35] Our conclusion that these factors satisfy the *Porter* test for the admissibility of scientific evidence finds support in two recent cases, including one from this state, involving this precise issue.[36]

In *State* v. *Henderson*, supra, 208 N.J. 208, the New Jersey Supreme Court appointed a special master who conducted an extensive hearing for the sole purpose of "evaluat[ing] scientific and other evidence about eyewitness identifications." Id., 217. The hearing, which

spanned ten days and produced more than 2000 pages of transcripts, included testimony from seven expert witnesses concerning more than 200 published scientific studies, articles and books. Id.; G. Gaulkin, Report of the Special Master, *State* v. *Henderson*, New Jersey Supreme Court, Docket No. A-8-08 (June 10, 2010) p. 3, available at http://www.judiciary.state.nj.us/pressrel/HENDERSON%20FINAL%20BRIEF%20.PDF%20(00621142).PDF (last visited August 14, 2012). On the basis of the evidence adduced at the hearing, the special master issued a comprehensive report, virtually all of which was adopted by a unanimous New Jersey Supreme Court. *State* v. *Henderson*, supra, 218. The report concluded that the science regarding eyewitness identifications—including the science regarding the variables previously discussed in this opinion—is "reliable, definitive and unquestionably fit for use in the courtroom." G. Gaulkin, supra, pp. 72–73; see also *State* v. *Henderson*, supra, 245–76.

This science also informed a recent proceeding in Connecticut; see *State* v. *Maner*, Superior Court, judicial district of Waterbury, Docket No. UWY-CR-08-375803-T (July 19, 2011); in which the trial court conducted a *Porter* hearing on the state's motion in limine to preclude the defendant, Tamarius Maner, from adducing expert testimony on the fallibility of eyewitness identification testimony. In a comprehensive memorandum of decision following the *Porter* hearing that included a careful review of the relevant scientific literature, the trial court found that "the methodology of the research regarding [the following factors is reliable]: (1) stress; (2) weapon focus; (3) cross-race identification; (4) unconscious transference; (5) witness certainty; (6) confidence malleability; (7) simultaneous versus sequential presentation of photo[graphic] arrays; (8) blind versus nonblind administration of photo-[graphic] arrays; and (9) the rapid deterioration of memory . . . . Researchers have tested each of these theories in numerous experiments and studies designed according to the scientific method using methods generally accepted within the scientific community. The results have been published in peer reviewed journals and books. Researchers have conducted meta-analyses of the results in order to draw conclusion[s] about the studies as a whole." Id. The trial court also concluded that each of the foregoing propositions generally is not within the knowledge of the average juror. Id. ("I find that the average juror does not understand that the accuracy of eyewitness identification [is] impacted by [the foregoing] factors . . . . I find that [expert] testimony on these factors will be helpful to the jury in understanding the issues brought before the court. The testimony will be helpful to those jurors who have no understanding of the factors and will ensure that jurors take any knowledge [that] they may . . . have regarding the factors and actually apply [those factors] to

assess the accuracy of the identifications presented . . . .''). In accordance with these findings, and upon concluding that Maner's expert on eyewitness identifications was fully qualified to provide expert testimony on that subject, the court denied the state's motion in limine insofar as the proffered expert testimony was relevant to the issues presented by the case. Id. The thorough, well reasoned analyses undertaken by the courts in *Maner* and *Henderson* leave no doubt that the variables identified in those cases and in the present case are the proper subject of expert testimony under *Porter*.

Of course, a trial court retains broad discretion in ruling on the qualifications of expert witnesses and determining whether their opinions are relevant. See, e.g., *State* v. *Beavers*, 290 Conn. 386, 414, 963 A.2d 956 (2009). Consequently, whether to permit expert testimony concerning the reliability of eyewitness identification evidence in any individual case ultimately is a matter within the sound discretion of the trial court. A trial court may bar expert testimony on the fallibility of eyewitness identifications if it reasonably concludes that the witness does not qualify as an expert or that the witness, although otherwise qualified, lacks an adequate scientific foundation for one or more of his opinions concerning the eyewitness identification at issue. Similarly, the trial court may preclude such testimony if the court reasonably determines, upon due consideration of the facts and circumstances of the case, that the particular issue presented is not beyond the ken of the average juror or that the proffered testimony would not aid the jury in resolving the issues presented. In other words, although we overrule our prior case law holding that expert testimony on eyewitness identifications is generally inadmissible, such evidence is subject to the same threshold reliability and relevance requirements as any other expert testimony. This is true even with respect to the eight propositions that we now determine meet the *Porter* requirement that the proffered testimony must be based on a scientifically valid methodology. A defendant who seeks to introduce expert testimony on one or more of those variables must satisfy the trial court that the witness is qualified to testify as an expert and that the proffered testimony is relevant to a disputed issue in the case, such that the testimony will assist the jury in resolving that issue.

We also wish to reiterate that a trial court retains the discretion to decide whether, under the specific facts and circumstances presented, focused and informative jury instructions on the fallibility of eyewitness identification evidence of the kind contemplated by the New Jersey Supreme Court in *Henderson*; see *State* v. *Henderson*, supra, 208 N.J. 219, 296–99; would alone be adequate to aid the jury in evaluating the eyewitness identification at issue. We emphasize, however, that any such instructions should reflect the findings and

conclusions of the relevant scientific literature pertaining to the particular variable or variables at issue in the case;[37] broad, generalized instructions on eyewitness identifications, such as those previously approved by this court in *State* v. *Tatum*, 219 Conn. 721, 734–35, 595 A.2d 322 (1991); see footnote 27 of this opinion; or those given in the present case; see footnote 5 of this opinion; do not suffice.

Finally, we agree with the New Jersey Supreme Court that the foregoing eight variables "are not exclusive. Nor are they intended to be frozen in time. . . . [S]cientific research relating to the reliability of eyewitness evidence is dynamic; the field is very different today than it was [three decades ago], and it will likely be quite different thirty years from now. . . . [T]rial courts [should not be limited] from reviewing evolving, substantial, and generally accepted scientific research. But to the extent . . . [that] courts either consider variables differently or entertain new ones, they must rely on reliable scientific evidence that is generally accepted by experts in the community."[38] *State* v. *Henderson*, supra, 208 N.J. 292.

Having concluded that our prior case law is outmoded and that the foregoing variables meet the *Porter* standard, we turn to the defendant's claim that the trial court improperly granted the state's motion in limine and precluded him from introducing Morgan's testimony on the reliability of eyewitness identifications. To resolve this issue, we must determine whether "(1) [Morgan] ha[d] a special skill or knowledge directly applicable to a matter in issue, (2) that skill or knowledge is not common to the average person, and (3) [Morgan's] testimony would [have been] helpful to the . . . jury in considering the issues." (Internal quotation marks omitted.) *Sullivan* v. *Metro-North Commuter Railroad Co.*, supra, 292 Conn. 158. In light of the foregoing discussion, it is evident that the trial court correctly concluded that Morgan had special skill or knowledge on the issue of the reliability of eyewitness identifications, and the state does not seriously claim to the contrary. It is equally evident, in light of the data that we have reviewed and in light of Morgan's unchallenged testimony, that the trial court abused its discretion in concluding that Morgan's proposed testimony about the reliability of eyewitness identifications concerned matters of common knowledge. Therefore, the only issues that we must address at any length are whether Morgan's testimony was "directly applicable to a matter in issue" and whether it would have been "helpful to the . . . jury in considering the issues." (Internal quotation marks omitted.) Id.

The state contends that Morgan's testimony was not applicable to the specific facts of this case and would not have been helpful to the jury because most of the eyewitnesses knew the defendant and were therefore

much less likely to render a mistaken identification. We agree with the state that, although there are exceptions, identification of a person who is well-known to the eyewitness generally does not give rise to the same risk of misidentification as does the identification of a person who is not well-known to the eyewitness.[39] We also agree that four of the five eyewitnesses in the present case—Robinson, Olivero, Baldwin, and Gomez—were familiar enough with the defendant that the risk of misidentification was small.[40] Accordingly, we conclude that the trial court did not abuse its discretion in precluding Morgan from testifying on the reliability of the identification testimony of these four witnesses.[41] Because the state's case concerning the murders of Ross and Williams was predicated on the testimony of three of those eyewitnesses, Olivero, Baldwin and Gomez, the defendant's claim must fail with respect to the two murder charges and the related capital felony charge.

Unlike the other eyewitnesses, however, Lang, who testified that he had observed the defendant shoot Robinson, was not so familiar with the defendant that the risk of misidentification was insignificant. In fact, Lang did not know the defendant at all.[42] Moreover, according to Lang, he had been standing next to the shooter at the time of the shooting and saw the defendant's photograph in the newspaper before identifying him as the shooter. We conclude that, with respect to Lang, Morgan's proposed testimony on the effect of stress on memory, the risk of retrofitting based on postevent information, and the relationship, or lack thereof, between confidence and accuracy, was relevant and would have been helpful to the jury. The trial court therefore abused its discretion in precluding Morgan's expert testimony insofar as it pertained to Lang's identification of the defendant as Robinson's assailant.[43]

Although some courts have concluded that it is not an abuse of discretion for a trial court to exclude otherwise admissible expert testimony on the reliability of eyewitness identifications when the eyewitness' testimony is corroborated by other evidence of the defendant's guilt; see, e.g., *United States* v. *Moore*, 786 F.2d 1308, 1312–13 (5th Cir. 1986); *State* v. *Wright*, 147 Idaho 150, 158, 206 P.3d 856 (App. 2009); *People* v. *Young*, 7 N.Y.3d 40, 45–46, 850 N.E.2d 623, 817 N.Y.S.2d 576 (2006); we do not believe that a defendant should be precluded from presenting such testimony merely because the state has presented other evidence of guilt that the jury reasonably could credit. Broadly speaking, when the identity of the perpetrator is disputed and the state seeks to use eyewitness testimony to identify the defendant as the perpetrator, the defendant should be permitted to adduce relevant expert testimony on the fallibility of the eyewitness' identification, at least in the absence of an adequate substitute for the testimony, such as comprehensive and focused jury instructions. A con-

trary rule would unfairly restrict the defendant's opportunity to mount a defense.[44]

We proceed to the question of harm. "When an improper evidentiary ruling is not constitutional in nature, the defendant bears the burden of demonstrating that the [impropriety] was harmful. . . . [A] nonconstitutional [impropriety] is harmless when an appellate court has a fair assurance that the [impropriety] did not substantially affect the verdict."[45] (Citation omitted; internal quotation marks omitted.) *State* v. *Orr*, 291 Conn. 642, 663, 969 A.2d 750 (2009).

We conclude that the error in the present case was harmless. First, several witnesses who knew the defendant well placed him at the bar a short time before the shooting. Second, Robinson provided the police with a written statement describing the shooting and identifying the defendant as the shooter.[46] Although Robinson testified at trial that he had not made that statement, the jury, which had been provided with his written statement, was free to believe contrary testimony from the police officers who took and witnessed the statement. Third, the state presented evidence that the same gun had been used in the shooting of Robinson and in the shootings of Williams and Ross, that the defendant had fled to New York on the day of the shootings, and that the defendant, when informed that the police were looking for him in connection with the shootings, had not denied his involvement and had merely said, "[w]ord." Fourth, defense counsel was able to cross-examine Lang and to present argument on the reliability and credibility of Lang's testimony.[47] Fifth, the trial court instructed the jury that it could consider an eyewitness' emotional condition, including stress during an incident in which a weapon was used, and that that condition could affect the reliability of an identification. The court also instructed the jury that the reliability of an identification might be affected by postevent information such as media coverage and conversations with others, that memories can change over time and that confidence does not necessarily correlate with accuracy. Although we have concluded that generalized jury instructions that merely touch on the subject of eyewitness identification evidence do not suffice as a substitute for expert testimony on the reliability of such evidence, we conclude that the jury instruction in this case provided some modest assistance[48] to the jury that, in combination with the convincing evidence of the defendant's guilt, ensured that the trial court's erroneous exclusion of Morgan's testimony on the reliability of Lang's identification testimony did not substantially affect the verdicts.[49]

II

Next, we address the defendant's claim that the trial court improperly denied his motions for a mistrial and for a new trial, which stemmed from the state's delayed

disclosure of a video recording showing the defendant's location and appearance on the evening of the shootings. The defendant claims that he was prejudiced by this late disclosure because defense counsel could not cross-examine various witnesses about it. We are not persuaded.

The following undisputed facts and procedural history are relevant to our resolution of this claim. Before trial, the defendant filed a motion for disclosure requesting that the trial court compel the state to produce video surveillance recordings for the Huntington Towers apartment building at 149 Huntington Street in New London for October 8 and 9, 2004. The defendant requested the video recordings because he believed that they would depict him and his wife and establish his location, attire, and physical appearance on the night of the shootings. In its response to the motion, the state claimed that it had produced the only video recording in its possession and that, upon information and belief, there were no other video recordings for the dates requested.

At trial, defense counsel called Andrea Gonzalez, the property manager for the Huntington Towers apartment building, as a witness. Gonzalez testified that she was in charge of the lobby surveillance equipment in the building and that, to the best of her recollection, she had provided video recordings for October 8 and 9, 2004, to the New London police department shortly after the shootings. After defense counsel completed his direct examination of Gonzalez, the state requested a recess, during which it informed the trial court and defense counsel that the "missing" video recording had been located.[50] The trial court then excused the jury and ordered a short continuance in order to give the parties an opportunity to review the new video recording. The video recording depicted the defendant in the lobby of the apartment building, approximately two hours before the shootings, wearing blue jeans, a dark jacket and a blue baseball cap. He also had a cast on his left hand.

On March 30, 2007, defense counsel made an oral motion for a mistrial. He argued that the defendant had been prejudiced by the late disclosure of the video recording because it had prevented the defense from cross-examining eyewitnesses about the defendant's appearance around the time of the shootings.[51] Defense counsel also argued that, if he had known about the video recording, he would have explored whether the police officers who had viewed the video recording shortly after the shootings might have given Lang information about the defendant's attire, specifically, that he was wearing what appeared to be a black quilted jacket with a North Face logo.

The trial court denied the motion for a mistrial on the ground that defense counsel would have an opportu-

nity to show the video recording to the jury and that he had been able to cross-examine witnesses about inconsistencies in their descriptions of the shooter. The court also noted that the defendant himself must have known what he was wearing on the night of the shootings. Finally, the court indicated that it would be willing to consider recalling the witnesses if the parties believed that that was necessary.

When trial resumed, defense counsel was permitted to present to the jury still photographs taken from the video recording. After the conclusion of evidence, the defendant filed a motion for a new trial in which he renewed the claims stemming from the belatedly disclosed video recording. The trial court denied the defendant's motion for a new trial.

We begin our analysis by setting forth the standard of review. Although "the remedy of a mistrial is permitted under the rules of practice, it is not favored. [A] mistrial should be granted only as a result of some occurrence upon the trial of such a character that it is apparent to the court that because of it a party cannot have a fair trial . . . and the whole proceedings are vitiated. . . . If curative action can obviate the prejudice, the drastic remedy of a mistrial should be avoided. . . . On appeal, we hesitate to disturb a decision not to declare a mistrial. The trial judge is the arbiter of the many circumstances [that] may arise during the trial in which his function is to [ensure] a fair and just outcome. . . . The trial court is better positioned than we are to evaluate in the first instance whether a certain occurrence is prejudicial to the defendant and, if so, what remedy is necessary to cure that prejudice. . . . The decision whether to grant a mistrial is within the sound discretion of the trial court." (Internal quotation marks omitted.) *State* v. *Higgins*, 265 Conn. 35, 75–76, 826 A.2d 1126 (2003).

Similarly, "[a]ppellate review of a trial court's decision granting or denying a motion for a new trial must take into account the trial judge's superior opportunity to assess the proceedings over which he or she has personally presided. . . . Thus, [a] motion for a new trial is addressed to the sound discretion of the trial court and is not to be granted except on substantial grounds. . . . In our review of the denial of a motion for [a new trial], we have recognized the broad discretion that is vested in the trial court to decide whether an occurrence at trial has so prejudiced a party that he or she can no longer receive a fair trial. The decision of the trial court is therefore reversible on appeal only if there has been an abuse of discretion." (Citation omitted; internal quotation marks omitted.) *State* v. *McIntyre*, 250 Conn. 526, 533, 737 A.2d 392 (1999).

"The law governing the state's obligation to disclose exculpatory evidence to defendants in criminal cases is well established. The defendant has a right to the

disclosure of exculpatory evidence under the due process clauses of both the United States constitution and the Connecticut constitution. *Brady* v. *Maryland*, 373 U.S. 83, 86, 83 S. Ct. 1194, 10 L. Ed. 2d 215 (1963); *State* v. *Simms*, 201 Conn. 395, 405 [and] n.8, 518 A.2d 35 (1986). In order to prove a *Brady* violation, the defendant must show: (1) that the prosecution suppressed evidence after a request by the defense; (2) that the evidence was favorable to the defense; and (3) that the evidence was material." (Internal quotation marks omitted.) *State* v. *Ouellette*, 295 Conn. 173, 185, 989 A.3d 1048 (2010).

"[E]vidence known to the defendant or his counsel, or that is disclosed, even if during trial, is not considered suppressed as that term is used in *Brady*." (Internal quotation marks omitted.) *State* v. *Walker*, 214 Conn. 122, 126, 571 A.2d 686 (1990); accord *State* v. *Reddick*, 197 Conn. 115, 121, 496 A.2d 466 (1985), cert. denied, 474 U.S. 1067, 106 S. Ct. 822, 88 L. Ed. 2d 795 (1986). Even if evidence is not deemed suppressed under *Brady* because it is disclosed during trial, however, the defendant nevertheless may be prejudiced if he is unable to use the evidence because of the late disclosure. See *State* v. *Reddick*, supra, 121–22; see also *State* v. *Williams*, 93 Conn. App. 844, 850, 890 A.2d 630 (2006) ("[when] there has been an initial disclosure of exculpatory evidence at trial, the appropriate standard to be applied is whether the disclosure came so late as to prevent the defendant from receiving a fair trial" [internal quotation marks omitted]); *State* v. *Thompson*, 81 Conn. App. 264, 279, 839 A.2d 622 ("[t]he unmistakable tone of *Brady* is that evidence required to be disclosed must be disclosed at a time when it can be used" [internal quotation marks omitted]), cert. denied, 268 Conn. 915, 847 A.2d 312 (2004). "Under these circumstances, the defendant bears the burden of proving that he was prejudiced by the state's failure to make the information available to him at an earlier time." *State* v. *Reddick*, supra, 121–22.

With these principles in mind, we conclude that the defendant has not established that he was so prejudiced by the late disclosure of the video recording that he did not receive a fair trial. Although it undoubtedly would have been better for the defense if the video recording had been disclosed before trial, even without the video recording, the defense was able to show inconsistencies between the eyewitness' descriptions of the defendant and the shooter. Moreover, although defense counsel was not able to ask the eyewitnesses and the New London police officers at the time of their initial testimony whether the police officers had given the eyewitnesses information derived from the video recording, defense counsel did have the opportunity to ask more generally whether the police officers had provided these witnesses with information about the defendant's appearance. In addition, the defendant him-

self presumably knew what he was wearing on the night of the shootings, and the defense ultimately was able to show the jury still photographs from the video recoding. Finally, the trial court indicated that it would consider allowing defense counsel to recall witnesses if necessary. Although we recognize that these would not have been optimal circumstances in which to confront the witnesses with the video recorded evidence, the fact that the defense declined the trial court's offer strongly suggests that it did not believe that such a confrontation was critical to a defense. Indeed, a reasonable juror might have concluded that the video recording corroborated some of the eyewitness testimony. Accordingly, the defense may have made a tactical decision in light of the fact that recalling the eyewitnesses would have been unduly risky because, as the defendant himself acknowledges, it was quite possible that they would have simply reaffirmed their testimony.[52] We see no reason why the defense would have made a different calculation if it had had access to the video recording during the trial. We therefore conclude that the trial court did not abuse its discretion in denying the defendant's motions for a mistrial and for a new trial.

The judgments are affirmed.

In this opinion ROGERS, C. J., and NORCOTT, EVELEIGH and VERTEFEUILLE, Js., concurred.

* The listing of justices reflects their seniority status on this court as of the date of oral argument.

[1] General Statutes § 53a-54b provides in relevant part: "A person is guilty of a capital felony who is convicted of any of the following . . . (7) murder of two or more persons at the same time or in the course of a single transaction . . . ."

[2] General Statutes § 53a-54a provides in relevant part: "(a) A person is guilty of murder when, with intent to cause the death of another person, he causes the death of such person . . . ."

[3] General Statutes § 53a-59 (a) provides in relevant part: "A person is guilty of assault in the first degree when: (1) With intent to cause serious physical injury to another person, he causes such injury to such person or to a third person by means of a deadly weapon or a dangerous instrument . . . ."

[4] After the parties had filed their principal briefs in the present appeal, this court decided *State* v. *Outing*, 298 Conn. 34, 3 A.3d 1 (2010), cert. denied, U.S. , 131 S. Ct. 1479, 179 L. Ed. 2d 316 (2011). Thereafter, the court granted the joint motion of the state and the defendant for permission to file supplemental briefs to address *Outing*. In *Outing*, the defendant, J'Veil Outing, maintained that he was entitled to present expert testimony on the issue of eyewitness identifications in connection with his motions to suppress the identification testimony of two eyewitnesses. Id., 39–41. Outing specifically claimed that the identification procedures utilized in his case were unnecessarily suggestive and therefore in violation of his right to due process. See id., 42, 46–47. The trial court declined to consider some of the proffered expert testimony and denied Outing's motions to suppress. Id., 41. Following his conviction, Outing appealed to this court, claiming, inter alia, that the trial court improperly had precluded him from presenting the expert testimony at the suppression hearing. Id., 54–55. In rejecting his claim, the majority in *Outing* acknowledged that it was "keenly aware of the concerns [arising from] the evolving jurisprudence regarding the admissibility of expert testimony on the reliability of eyewitness identifications"; id., 58; but concluded, for reasons related to the nature of Outing's due process claim, that it was both unnecessary and unwise to address his contention that this court should overrule *Kemp* and *McClendon*. Id., 58–60. The majority nevertheless noted that it was "open to reconsidering *Kemp* and *McClendon* in an appropriate case . . . ." Id., 62. This appeal presents

such a case.

In its supplemental brief, the state does not rely on our reasoning in *Kemp* and *McClendon* to argue that, in the present case, the testimony of the defendant's expert witness on the reliability of eyewitness identifications was properly excluded because it is within the knowledge of the average juror and invades the province of the jury. See *State* v. *McClendon*, supra, 248 Conn. 586; *State* v. *Kemp*, supra, 199 Conn. 477. Rather, the state maintains that the testimony was properly excluded because it did not fit the facts of this case and because the eyewitness identifications were corroborated by other evidence. Indeed, at oral argument before this court, the state acknowledged that *Kemp* and *McClendon* cut too broadly insofar as they effectively authorize the per se exclusion of such testimony.

In addition to allowing the parties to file supplemental briefs, this court also granted the applications of the Connecticut Innocence Project and, collectively, of Neil Vidmar, Kenneth Deffenbacher, Solomon Fulero, Harmon M. Hosch, Rod Lindsay, Roy S. Malpass and J. Don Read, who are university professors with experience in the field of eyewitness identification, to file amicus curiae briefs in support of the defendant's contention that *Kemp* and *McClendon* should be overruled.

[5] The trial court instructed the jury that "[i]dentification is an essential element of any crime charged. Identification is a question of fact for you to decide, taking into consideration all of the evidence. The identification of the defendant by a single witness as the one involved in the commission of a crime is, in and of itself, sufficient to justify a conviction, provided that you are satisfied beyond a reasonable doubt of the identity of the defendant as the one who committed the crime in question as well as all of the other essential elements of that alleged crime.

"You should consider all the facts and circumstances which existed at the time of the observation of the perpetrator. The value of identification testimony depends upon the opportunity and ability of the witness to observe the perpetrator at the time of the event and to make an accurate identification later.

"In appraising identification testimony, you should take into account whether the witness had adequate opportunity to observe the perpetrator. This may be affected by such matters as the length of time available to make the observation, the distance between the witness and the perpetrator, the lighting conditions at the time of the offense, whether the witness had known or seen the person in the past, and whether anything distracted the attention of the witness.

"You should also consider a witness' physical and emotional condition, such as stress during an incident where a weapon was used, since that may impact on the reliability of an identification. That identification may be affected by postevent information such as media coverage, talking to or listening to others about who was the perpetrator, that memory can change over time and that the level of certainty indicated by a person [in his or her identification] may not always reflect a corresponding level of accuracy of [the] identification.

"In short, you must consider the totality of the circumstances affecting the identification of the defendant as the perpetrator of the alleged crime that you are considering. Remember, you must be satisfied beyond a reasonable doubt of the identity of the defendant as the one who committed the alleged crime being considered as well as all other essential elements of that alleged crime."

[6] Section 7-2 of the Connecticut Code of Evidence provides: "A witness qualified as an expert by knowledge, skill, experience, training, education or otherwise may testify in the form of an opinion or otherwise concerning scientific, technical or other specialized knowledge, if the testimony will assist the trier of fact in understanding the evidence or in determining a fact in issue."

[7] Although neither *Kemp* nor *McClendon* categorically barred the admission of expert testimony on the reliability of eyewitness identifications, our trial courts have relied routinely on those cases to exclude such testimony. See, e.g., *State* v. *Monteeth*, 208 Conn. 202, 210 n.5, 544 A.2d 1199 (1988); *State* v. *Boscarino*, 204 Conn. 714, 733–34, 529 A.2d 1260 (1987); *State* v. *Elliott*, 8 Conn. App. 566, 571–72, 513 A.2d 1285, cert. denied, 201 Conn. 813, 517 A.2d 630 (1986); see also *State* v. *Rios*, 74 Conn. App. 110, 119 n.9, 810 A.2d 812 (2002) (explaining that "expert testimony regarding misidentification generally is disfavored and excluded"), cert. denied, 262 Conn. 945, 815 A.2d 677 (2003); *Velasco* v. *Warden*, Superior Court, judicial district of Tolland, Docket No. TSR-CV-05-4000321-S (August 13, 2008) (assessing claim

that counsel rendered ineffective assistance in failing to produce expert testimony on eyewitness identifications), aff'd sub nom. *Velasco* v. *Commissioner of Correction*, 119 Conn. App. 164, 987 A.2d 1031, cert. denied, 297 Conn. 901, 994 A.2d 1289 (2010); *Kennedy* v. *Warden*, Superior Court, judicial district of Tolland, Docket No. TSR-CV-06-4000972-S (April 29, 2008) (same); cf. *State* v. *Manson*, 118 Conn. App. 538, 550–51, 984 A.2d 1099 (2009) (concluding that trial court properly had precluded expert testimony on reliability of eyewitness identifications because that testimony was not relevant to case but noting that trial court also had found that negative effect of stress on memory and absence of relationship between eyewitness' degree of certainty and accuracy of identification were factors not generally within knowledge of jurors), cert. denied, 295 Conn. 902, 988 A.2d 878 (2010); *State* v. *Kelly*, Superior Court, judicial district of Ansonia-Milford, Docket No. CR-07-61742 (January 16, 2009) (relying on *Kemp* in excluding certain testimony of expert witness on accuracy of eyewitness identifications but permitting other testimony of expert on ground that it would aid jury). Indeed, it is difficult to see how the exclusion of such testimony could ever constitute reversible error under *Kemp* and *McClendon* in view of our statement in those cases that the admission of such testimony is "disfavored . . . ." (Internal quotation marks omitted.) *State* v. *McClendon*, supra, 248 Conn. 586; accord *State* v. *Kemp*, supra, 199 Conn. 477. We presume that our trial courts routinely have excluded such testimony on the basis of that statement.

[8] *Ferensic* v. *Birkett*, 501 F.3d 469, 482 (6th Cir. 2007) ("expert testimony on eyewitness identifications . . . is now universally recognized as scientifically valid and of aid [to] the trier of fact for admissibility purposes" [internal quotation marks omitted]); *United States* v. *Smithers*, 212 F.3d 306, 313 (6th Cir. 2000) (noting that "the science of eyewitness perception has achieved the level of exactness, methodology and reliability of any psychological research" [internal quotation marks omitted]); *United States* v. *Moore*, 786 F.2d 1308, 1312 (5th Cir. 1986) ("This [c]ourt accepts the modern conclusion that the admission of expert testimony regarding eyewitness identifications is proper . . . . We cannot say [that] such scientific data [are] inadequate or contradictory. The scientific validity of the studies confirming the many weaknesses of eyewitness identification cannot be seriously questioned at this point." [Internal quotation marks omitted.]); *United States* v. *Downing*, 753 F.2d 1224, 1242 (3d Cir. 1985) (noting "the proliferation of empirical research demonstrating the pitfalls of eyewitness identification" and that "the consistency of the results of these studies is impressive" [internal quotation marks omitted]); *United States* v. *Feliciano*, United States District Court, Docket No. CR-08-0932-01 PHX-DGC (D. Ariz. November 5, 2009) ("[t]he degree of acceptance [of the scientific data on the reliability of eyewitness identifications] within the scientific community . . . is substantial"); *People* v. *McDonald*, 37 Cal. 3d 351, 364–65, 690 P.2d 709, 208 Cal. Rptr. 236 (1984) ("[E]mpirical studies of the psychological factors affecting eyewitness identification have proliferated, and reports of their results have appeared at an ever-accelerating pace in the professional literature of the behavioral and social sciences. . . . The consistency of the results of these studies is impressive, and the courts can no longer remain oblivious to their implications for the administration of justice." [Citations omitted.]), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); *Brodes* v. *State*, 279 Ga. 435, 440–41, 614 S.E.2d 766 (2005) (scientific validity of research studies concerning unreliability of eyewitness identifications is well established); *State* v. *Henderson*, 208 N.J. 208, 218, 27 A.3d 872 (2011) (noting that, "[f]rom social science research to the review of actual police lineups, from laboratory experiments to DNA exonerations, [scientific research and studies demonstrate] that the possibility of mistaken identification is real," that many studies reveal "a troubling lack of reliability in eyewitness identifications," and that "[t]hat evidence offers convincing proof that the current test for evaluating the trustworthiness of eyewitness identifications should be revised"); *People* v. *LeGrand*, 8 N.Y.3d 449, 455, 867 N.E.2d 374, 835 N.Y.S.2d 523 (2007) ("[E]xpert psychological testimony on eyewitness identification [is] sufficiently reliable to be admitted, and the vast majority of academic commentators have urged its acceptance . . . . [P]sychological research data [are] by now abundant, and the findings based [on the data] concerning cognitive factors that may affect identification are quite uniform and well documented . . . ." [Citation omitted; internal quotation marks omitted.]); *State* v. *Copeland*, 226 S.W.3d 287, 299 (Tenn. 2007) ("[s]cientifically tested studies, subject to peer review, have identified legitimate areas of concern" in area of eyewitness identifications); *Tillman* v. *State*, 354 S.W.3d 425, 441

(Tex. Crim. App. 2011) ("[E]yewitness identification has continued to be troublesome and controversial as the outside world and modern science have cast doubt on this crucial piece of evidence. . . . [A] vast body of scientific research about human memory has emerged. That body of work casts doubt on some commonly held views relating to memory . . . ." [Internal quotation marks omitted.]); *State* v. *Clopten*, 223 P.3d 1103, 1108 (Utah 2009) ("empirical research has convincingly established that expert testimony is necessary in many cases to explain the possibility of mistaken eyewitness identification"); *State* v. *Dubose*, 285 Wis. 2d 143, 162, 699 N.W.2d 582 (2005) ("[o]ver the last decade, there have been extensive studies on the issue of identification evidence").

[9] See, e.g., S. Clark, "A Re-examination of the Effects of Biased Lineup Instructions in Eyewitness Identification," 29 Law & Hum. Behav. 395, 395–96 (2005); K. Deffenbacher et al., "Forgetting the Once-Seen Face: Estimating the Strength of an Eyewitness's Memory Representation," 14 J. Experimental Psychol.: Applied 139, 147–48 (2008); K. Deffenbacher et al., "Mugshot Exposure Effects: Retroactive Interference, Mugshot Commitment, Source Confusion, and Unconscious Transference," 30 Law & Hum. Behav. 287, 306 (2006); K. Deffenbacher et al., "A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory," 28 Law & Hum. Behav. 687, 699–704 (2004); A. Douglass & N. Steblay, "Memory Distortion in Eyewitnesses: A Meta-Analysis of the Post-Identification Feedback Effect," 20 Applied Cognitive Psychol. 859, 864–65 (2006); S. Kassin et al., "On the 'General Acceptance' of Eyewitness Testimony Research: A New Survey of the Experts," 56 Am. Psychologist 405, 405–406 (2001); J. Pozzulo & R. Lindsay, "Identification Accuracy of Children Versus Adults: A Meta-Analysis," 22 Law & Hum. Behav. 549, 549–50 (1998); N. Steblay et al., "Eyewitness Accuracy Rates in Police Showup and Lineup Presentations: A Meta-Analytic Comparison," 27 Law & Hum. Behav. 523, 535–37 (2003); N. Steblay et al., "Eyewitness Accuracy Rates in Sequential and Simultaneous Lineup Presentations: A Meta-Analytic Comparison," 25 Law & Hum. Behav. 459, 464 (2001); N. Steblay, "Social Influence in Eyewitness Recall: A Meta-Analytic Review of Lineup Instruction Effects," 21 Law & Hum. Behav. 283, 284, 294–96 (1997); N. Steblay, "A Meta-Analytic Review of the Weapon Focus Effect," 16 Law & Hum. Behav. 413, 413, 420–22 (1992).

[10] A meta-analysis is a study that combines and synthesizes the results of other available studies.

[11] These variables are divided into two general categories: system variables and estimator variables. System variables are factors, such as lineup procedures, that are within the control of the criminal justice system. Estimator variables are factors that stem from conditions over which the criminal justice system has no control and generally arise out of the circumstances under which the eyewitness viewed the perpetrator during the commission of the crime, such as lighting, distance or presence of a weapon. See, e.g., G. Wells, "Applied Eyewitness-Testimony Research: System Variables and Estimator Variables," 36 J. Personality & Soc. Psychol. 1546, 1548 (1978).

[12] See, e.g., *United States* v. *Williams*, 522 F.3d 809, 811 (7th Cir. 2008); *United States* v. *Brownlee*, 454 F.3d 131, 142 n.9, 144 (3d Cir. 2006); *United States* v. *Stevens*, 935 F.2d 1380, 1400 (3d Cir. 1991); *United States* v. *Moore*, 786 F.2d 1308, 1312 (5th Cir. 1986); *People* v. *McDonald*, 37 Cal. 3d 351, 369, 690 P.2d 709, 208 Cal. Rptr. 236 (1984), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); *Johnson* v. *State*, 272 Ga. 254, 256 n.2, 526 S.E.2d 549 (2000); *People* v. *Young*, 7 N.Y.3d 40, 43, 850 N.E.2d 623, 817 N.Y.S.2d 576 (2006); see also *State* v. *Ledbetter*, 275 Conn. 534, 576, 881 A.2d 290 (2005) ("the correlation between witness confidence and accuracy tends to be weak, and witness confidence can be manipulated"), cert. denied, 547 U.S. 1082, 126 S. Ct. 1798, 164 L. Ed. 2d 537 (2006).

[13] See, e.g., *United States* v. *Brownlee*, 454 F.3d 131, 136–37 (3d Cir. 2006); *United States* v. *Smith*, 736 F.2d 1103, 1106 (6th Cir.), cert. denied, 469 U.S. 868, 105 S. Ct. 213, 83 L. Ed. 2d 143 (1984); *United States* v. *Lester*, 254 F. Sup. 2d 602, 612 (E.D. Va. 2003); *People* v. *Cornwell*, 37 Cal. 4th 50, 78, 80, 117 P.3d 622, 33 Cal. Rptr. 3d 1 (2005), overruled in part on other grounds by *People* v. *Doolin*, 45 Cal. 4th 390, 198 P.3d 11, 87 Cal. Rptr. 3d 209 (2009); *Benn* v. *United States*, 978 A.2d 1257, 1271 (D.C. 2009); *Commonwealth* v. *Christie*, 98 S.W.3d 485, 490 (Ky. 2002).

[14] See, e.g., *United States* v. *Downing*, 753 F.2d 1224, 1231 (3d Cir. 1985); *United States* v. *Smith*, 621 F. Sup. 2d 1207, 1216 (M.D. Ala. 2009); *State* v. *Chapple*, 135 Ariz. 281, 294, 660 P.2d 1208 (1983); *Brodes* v. *State*, 279 Ga. 435, 438, 614 S.E.2d 766 (2005); *People* v. *Young*, 7 N.Y.3d 40, 43, 850 N.E.2d

623, 817 N.Y.S.2d 576 (2006); *State* v. *Bradley*, 181 Ohio App. 3d 40, 44, 907 N.E.2d 1205, appeal denied, 122 Ohio St. 3d 1480, 910 N.E.2d 478 (2009).

[15] See, e.g., *United States* v. *Rodriguez-Felix*, 450 F.3d 1117, 1124 n.8 (10th Cir.), cert. denied, 549 U.S. 968, 127 S. Ct. 420, 166 L. Ed. 2d 297 (2006); *United States* v. *Harris*, 995 F.2d 532, 535 (4th Cir. 1993); *United States* v. *Smith*, 621 F. Sup. 2d 1207, 1215 (M.D. Ala. 2009); *United States* v. *Graves*, 465 F. Sup. 2d 450, 456 (E.D. Pa. 2006); *United States* v. *Lester*, 254 F. Sup. 2d 602, 612 (E.D. Va. 2003); *People* v. *McDonald*, 37 Cal. 3d 351, 368, 690 P.2d 709, 208 Cal. Rptr. 236 (1984), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); *State* v. *Copeland*, 226 S.W.3d 287, 302 (Tenn. 2007).

[16] *State* v. *Chapple*, 135 Ariz. 281, 293, 660 P.2d 1208 (1983); *Commonwealth* v. *Christie*, 98 S.W.3d 485, 490 (Ky. 2002); *State* v. *Henderson*, supra, 208 N.J. 267.

[17] See, e.g., *Davis* v. *Cline*, United States District Court, Docket No. 06-3I27-KHV (D. Kan. May 24, 2007) (double-blind and sequential identification procedures); *United States* v. *Graves*, 465 F. Sup. 2d 450, 455 (E.D. Pa. 2006) (sequential identification procedure); *Brown* v. *State*, Alaska Court of Appeals, Docket Nos. A-8586 and A-9108 (August 2, 2006) (double-blind and sequential identification procedures); *Commonwealth* v. *Silva-Santiago*, 453 Mass. 782, 791, 906 N.E.2d 299 (2009) (double-blind and sequential identification procedures); *People* v. *Williams*, 14 Misc. 3d 571, 582–83, 830 N.Y.S.2d 452 (2006) (double-blind and sequential identification procedures); *Stephenson* v. *State*, 226 S.W.3d 622, 626 (Tex. App. 2007) (sequential identification procedure); see also Eyewitness Identification Task Force, Report to the Judiciary Committee of the Connecticut General Assembly (February 8, 2012) p. 2 ("Based on the expert testimony, review of the literature available and extensive discussions among [t]ask [f]orce members, the following is unanimously recommended . . . . It shall be mandatory for all law enforcement officers in the [s]tate of Connecticut to utilize the sequential method of administering photo[graphic] arrays during [eyewitness] identification procedures; further, it shall be mandatory for law enforcement to utilize the double blind method of administration only where practicable; and where not practicable, the blind procedure shall be used. The [t]ask [f]orce recommends that these mandatory changes be made statutorily.").

[18] See, e.g., *United States* v. *Brownlee*, 454 F.3d 131, 137 (3d Cir. 2006); *United States* v. *Smith*, 621 F. Sup. 2d 1207, 1216 (M.D. Ala. 2009); *Brown* v. *State*, Alaska Court of Appeals, Docket Nos. A-8586 and A-9108 (August 2, 2006); *State* v. *Chapple*, 135 Ariz. 281, 294, 660 P.2d 1208 (1983); *Benn* v. *United States*, 978 A.2d 1257, 1271 n.50 (D.C. 2009).

[19] See, e.g., *United States* v. *Harris*, 995 F.2d 532, 535 (4th Cir. 1993); *United States* v. *Smith*, 736 F.2d 1103, 1106 (6th Cir.), cert. denied, 469 U.S. 868, 105 S. Ct. 213, 83 L. Ed. 2d 143 (1984); *State* v. *Chapple*, 135 Ariz. 281, 294, 660 P.2d 1208 (1983).

[20] For example, courts have recognized the significance of expert testimony concerning the fact that a person wearing a hat or a hood may diminish a witness' ability to identify that person. See, e.g., *United States* v. *Feliciano*, United States District Court, Docket No. CR-08-0932-01 PHX-DGC (D. Ariz. November 5, 2009); *Sturgeon* v. *Quarterman*, 615 F. Sup. 2d 546, 568 (S.D. Tex. 2009); *State* v. *Henderson*, supra, 208 N.J. 266. Although it no doubt is self-evident that a mask or other disguise likely will have an adverse affect on a witness' ability to remember and identify a perpetrator, "[d]isguises as simple as hats have been shown to reduce identification accuracy." *State* v. *Henderson*, supra, 266.

[21] See S. Kassin et al., "On the 'General Acceptance' of Eyewitness Testimony Research: A New Survey of the Experts," 56 Am. Psychologist 405, 407–11 (2001).

[22] Of course, some laypersons may be aware of one or more of these findings. Generally speaking, however, the findings are not common knowledge, and many have been found to run counter to the intuitive understanding of the average person. See, e.g., *United States* v. *Brownlee*, 454 F.3d 131, 142 (3d Cir. 2006) ("while science has firmly established the inherent unreliability of human perception and memory . . . this reality is outside the jury's common knowledge, and often contradicts jurors' commonsense understandings" [citation omitted; internal quotation marks omitted]); *United States* v. *Smithers*, 212 F.3d 306, 312 n.1 (6th Cir. 2000) ("because many of the factors affecting eyewitness impressions are counter-intuitive, many jurors' assumptions about how memories are created are actively wrong" [internal quotation marks omitted]); *United States* v. *Smithers*, supra, 316 ("there is no question that many aspects of perception and memory are not

within the common experience of most jurors, and . . . many factors that affect memory are counter-intuitive''); *United States* v. *Moore*, 786 F.2d 1308, 1312 (5th Cir. 1986) (''Expert testimony on eyewitness reliability is not simply a recitation of facts available through common knowledge. Indeed, the conclusions of the psychological studies are largely counter-intuitive, and serve to explode common myths about an individual's capacity for perception . . . .'' [Internal quotation marks omitted.]); *Moore* v. *Keller*, United States District Court, Docket No. 5:11-HC-2148-F (E.D.N.C. March 30, 2012) (''It is hardly remarkable or novel to observe that eyewitness identification is particularly susceptible to a host of environmental and psychological influences which can render a given identification, if not flatly erroneous, at least dubious for purposes of a criminal trial. . . . Nor is it a remarkable or novel observation that, often, an expert witness will be essential to educate the jury about the weaknesses of eyewitness identifications which are not generally known by jurors, as well as to explain how abstract theories of psychology and social science might apply to the unique facts of the case before the jury.'' [Citations omitted.]); H. Fradella, ''Why Judges Should Admit Expert Testimony on the Unreliability of Eyewitness Testimony,'' 2 Fed. Cts. L. Rev. 1, 24 (2007) (''[t]he scientific research on memory, generally, and eyewitness identification in particular are quite counterintuitive and hardly commonsensical'' [internal quotation marks omitted]); R. Wise et al., ''A Tripartite Solution to Eyewitness Error,'' 97 J. Crim. L. & Criminology 807, 812 (2007) (''eyewitness memory is much more malleable and susceptible to error than is generally realized''); G. Gaulkin, Report of the Special Master, *State* v. *Henderson*, New Jersey Supreme Court, Docket No. A-8-08 (June 10, 2010) p. 49, available at http://www.judiciary.state.nj.us/pressrel/HENDERSON%20FINAL%20BRIEF%20.PDF%20(00621142).PDF (last visited August 14, 2012) (studies demonstrate that laypersons ''underestimate the importance of proven indicators of [eyewitness] accuracy,'' ''tend to rely heavily on factors that the research finds are not good indicators of accuracy,'' and ''tend to overestimate witness accuracy rates''); G. Gaulkin, supra, p. 48 (''[s]tudies examining whether and to what extent jurors [or potential jurors] know or correctly intuit the findings reported in the eyewitness identification literature report that laypersons are largely unfamiliar with those findings and often hold beliefs to the contrary'').

[23] See, e.g., *United States* v. *Moore*, 786 F.2d 1308, 1312 (5th Cir. 1986) (''[I]t is commonly believed that the accuracy of a witness' recollection increases with the certainty of the witness. In fact, the data reveal no correlation between witness certainty and accuracy. Similarly, it is commonly believed that witnesses remember better when they are under stress. The data indicate that the opposite is true. The studies also show that a group consensus among witnesses as to an alleged criminal's identity is far more likely to be inaccurate than is an individual identification. This is because of the effect of the 'feedback factor,' which serves to reinforce mistaken identifications.''); *Moore* v. *Keller*, United States District Court, Docket No. 5:11-HC-2148-F (E.D.N.C. March 30, 2012) (''[S]tudies show that eyewitness testimony offered with confidence is likely to be believed by jurors. . . . However, much empirical data [indicate] that the confidence of an eyewitness is *not* necessarily a reliable predictor of accuracy. . . . This is attributable to the extreme malleability of eyewitness confidence. As soon as the eyewitness enters the legal system, confidence and accuracy seem to take different paths. Even routine witness preparation and questioning, conducted without Machiavellian intent, will tend to boost the [eyewitness'] certainty, while having no positive impact on the [eyewitness'] accuracy.'' [Citations omitted; emphasis in original; internal quotation marks omitted.]); *People* v. *McDonald*, 37 Cal. 3d 351, 362, 690 P.2d 709, 208 Cal. Rptr. 236 (1984) (''empirical research has undermined a number of widespread lay beliefs about the psychology of eyewitness identification, e.g., that the accuracy of a [witness'] recollection increases with his certainty, that accuracy is also improved by stress, that cross-racial factors are not significant, and that the reliability of an identification is unaffected by the presence of a weapon or violence at the scene''), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); *Johnson* v. *State*, 272 Ga. 254, 256 n.2, 526 S.E.2d 549 (2000) (importance of expert testimony on reliability of eyewitness identifications is especially great when it ''involves issues which are counterintuitive or contrary to common wisdom . . . such as the absence of an expected correlation between the witness' expression of confidence in the identification and actual accuracy, or the impairment effect acute stress or the presence of a weapon may have on accuracy''); *People* v. *Abney*, 13 N.Y.3d 251,

268, 918 N.E.2d 486, 889 N.Y.S.2d 890 (2009) (counterintuitive that accuracy of eyewitness identification may be adversely affected by, inter alia, event stress, weapon focus, cross-racial identification and witness confidence); *State* v. *Copeland*, 226 S.W.3d 287, 300 (Tenn. 2007) ("Although research has convincingly demonstrated the weaknesses inherent in eyewitness identification, jurors are, for the most part, unaware of these problems. People simply do not accurately understand the deleterious effects that certain variables can have on the accuracy of the memory processes of an honest eyewitness. . . . Moreover, the common knowledge that people do possess often runs contrary to documented research findings." [Citations omitted; internal quotation marks omitted.]); *State* v. *Butterfield*, 27 P.3d 1133, 1146 (Utah 2001) (same).

[24] See, e.g., *Ferensic* v. *Birkett*, 501 F.3d 469, 472 (6th Cir. 2007) (jurors generally are unfamiliar with effect of postevent or postidentification information on reliability of identifications); *United States* v. *Smith*, 736 F.2d 1103, 1106 (6th Cir.) (phenomenon of unconscious transference is not within knowledge of average juror), cert. denied, 469 U.S. 868, 105 S. Ct. 213, 83 L. Ed. 2d 143 (1984); *Moore* v. *Keller*, United States District Court, Docket No. 5:11-HC-2148-F (E.D.N.C. March 30, 2012) (jurors are unaware of possible adverse effect on reliability of eyewitness identification stemming from procedure conducted by police officer who is aware of identity of suspect); *State* v. *Chapple*, 135 Ariz. 281, 293, 295–96, 660 P.2d 1208 (1983) (jurors often are unaware that " 'forgetting curve' is not uniform" and of likelihood of unconscious transference); *State* v. *Maner*, Superior Court, judicial district of Waterbury, Docket No. UWY-CR-08-0375803-T (July 19, 2011) (court accepted state's concession that import of double-blind and sequential identification procedures was not within common knowledge of average juror); *Commonwealth* v. *Christie*, 98 S.W.3d 485, 490 (Ky. 2002) (fact that "a person's memory diminishes over a period of hours rather than days or weeks [the 'forgetting curve']" and fact that "an [eyewitness'] initial identification may influence that [eyewitness'] later identifications and perceived memories of an event" were "not within the common knowledge of lay persons or jurors").

[25] *State* v. *Clopten*, 223 P.3d 1103, 1110 (Utah 2009) ("[B]ecause eyewitnesses may express almost absolute certainty about identifications that are inaccurate, research shows the effectiveness of cross-examination is badly hampered. Cross-examination will often expose a lie or half-truth . . . but may be far less effective when witnesses, although mistaken, believe that what they say is true. In addition . . . eyewitnesses are likely to use their expectations, personal experience, biases, and prejudices to fill in the gaps created by imperfect memory. . . . Because it is unlikely that witnesses will be aware that this process has occurred, they may express far more confidence in the identification than is warranted." [Citation omitted; internal quotation marks omitted.]).

[26] See *United States* v. *Jones*, 762 F. Sup. 2d 270, 277 (D. Mass. 2010) ("[C]ross-examination of the eyewitnesses will have little effect on jurors if they analyze the evidence through their common-sense, often incorrect assumptions. For example, if jurors incorrectly assume that in general, high levels of stress enhance a [witness'] ability to remember a suspect, they will not be persuaded by defense counsel's efforts to establish that the witness was under a high level of stress during an encounter with the suspect."), aff'd, F.3d (1st Cir. 2012); *State* v. *Clopten*, 223 P.3d 1103, 1110 (Utah 2009) ("Even if cross-examination reveals flaws in the identification, expert testimony may still be needed to assist the jury. Cross-examination might show, for example, that the perpetrator was a different race than the eyewitness and was also wearing a disguise. Without the assistance of expert testimony, a jury may have difficulty assessing the import of those factors in gauging the reliability of the identification."); see also *Ferensic* v. *Birkett*, 501 F.3d 469, 481–82 (6th Cir. 2007) (cross-examination of eyewitness not effective substitute for expert testimony on reliability of eyewitness identifications); *Benn* v. *United States*, 978 A.2d 1257, 1279 (D.C. 2009) (cross-examination generally is not adequate substitute for expert testimony because "the information that an expert can provide about research studies is different in nature and cannot be elicited from a lay witness during cross-examination"); *State* v. *Body*, 366 S.W.3d 625, 628 (Mo. App. 2012) ("[i]n recent years, eyewitness testimony has been the subject of attack on grounds that it is inherently unreliable . . . but simultaneously of such persuasive value that it cannot be discounted using the ordinary tools of cross-examination and impeachment"); *State* v. *Copeland*, 226 S.W.3d 287, 300 (Tenn. 2007) (research indicates that cross-exami-

nation is insufficient "to educate the jury on the problems with eyewitness identification").

[27] Recently, the New Jersey Supreme Court undertook a comprehensive review of the various issues pertaining to eyewitness identification testimony. See generally *State* v. *Henderson*, supra, 208 N.J. 208. This review followed the New Jersey Supreme Court's remand of the case and appointment of a special master to evaluate scientific and other evidence concerning eyewitness identifications. Id., 217. The special master conducted a hearing that included testimony from numerous expert witnesses and consideration of "hundreds of scientific studies" and reports. Id., 217–18. Following the hearing, the special master issued a detailed report in which he concluded that scientific studies demonstrate convincingly that eyewitness testimony frequently is unreliable and that jurors generally are unaware of the problems associated with such testimony. See G. Gaulkin, Report of the Special Master, *State* v. *Henderson*, New Jersey Supreme Court, Docket No. A-8-08 (June 10, 2010) pp. 48–49, available at http://www.judiciary.state.nj.us/pressrel/HENDERSON%20FINAL%20BRIEF%20.PDF%20(00621142).PDF (last visited August 14, 2012). The court in *Henderson* adopted much of the report and, in particular, agreed with the special master that the evidence adduced at the remand hearing establishes that the traditional means of evaluating the trustworthiness of eyewitness identification testimony, including cross-examination and generalized jury instructions, do "not offer an adequate measure for reliability" of eyewitness identification evidence and "[overstate] the jury's inherent ability to evaluate evidence offered by eyewitnesses who honestly believe their testimony is accurate." *State* v. *Henderson*, supra, 218. Consistent with the special master's report, the court also identified numerous system and estimator variables; see footnote 11 of this opinion; for which there is both "scientific support that is generally accepted by experts"; *State* v. *Henderson*, supra, 299; and "a need to promote greater juror understanding . . . ." Id., 274. To address the problem, the court determined that "enhanced"; id., 296; and "more focused"; id., 219; jury charges—that is, jury charges that, because they reflect the findings of the scientific research on the particular variable at issue, are significantly more informative than the generalized instructions that traditionally have been given on eyewitness identification—should "be given to guide juries about the various factors that may affect the reliability of an identification in a particular case." Id., 296. To implement its decision, the court directed that the state criminal practice committee and the state committee on model criminal jury charges "draft proposed revisions to the current [model] charge on eyewitness identification and submit them to [that court] for review before they are implemented." Id., 298. The court further directed that those proposed jury charges address "all of the system and estimator variables" for which the court previously had found there is a scientific consensus. Id., 298–99. Finally, although the court recognized the "usefulness of expert testimony relating to eyewitness identification" and acknowledged that "there will be times when [such] testimony will benefit the trier of fact"; id., 298; the court also expressed its expectation that, "with enhanced jury instructions, there will be less need for expert testimony. Jury charges offer a number of advantages: they are focused and concise, authoritative (in that juries hear them from the trial judge, not a witness called by one side), and cost-free; they avoid possible confusion to jurors created by dueling experts; and they eliminate the risk of an expert invading the jury's role or opining on an eyewitness' credibility." Id.

This court has rejected challenges to jury instructions on eyewitness identification evidence when those instructions alerted the jury in the most general terms to the potential unreliability of such evidence. For example, in *State* v. *Tatum*, 219 Conn. 721, 595 A.2d 322 (1991), we stated: "Our review of the entire charge satisfies us that it was adequate to alert the jury to the dangers inherent in eyewitness identification. Throughout the charge the court emphasized that the burden was on the [state] to prove the element of identification beyond a reasonable doubt. The court instructed the jury that when deciding the question of identification it should 'consider all the facts and circumstances which existed at the time of the observations of the perpetrator by each witness,' and that 'the reliability of each witness is of paramount importance' and [that] the testimony on identity should be 'thoroughly scrutinized.' It instructed the jury to consider the 'totality of all the circumstances affecting identification,' listing the following specific factors: 'the opportunity which the witness had to observe the person, the degree of certainty of the identification made in court, whether the witness knew or had seen the person before the identification, the circumstances

and degree of certainty or uncertainty of any out-of-court identifications made, whether by photograph or in lineup or other display of a person and the length of time available to make the observations of the perpetrator . . . the lighting conditions at the time of the crime, any physical descriptions that the witness may have given to the police, the physical and emotional condition of the witness at the time of the incident and the witness' powers of observation . . . .' The fact that this otherwise exhaustive charge lacked specific references to the [particular concerns raised by the eyewitness identification testimony at issue] does not render it inadequate. . . . The instructions given . . . provided sufficient guidance to the jury on the issue of eyewitness identification." (Citation omitted.) Id., 734–35. Contrary to our prior holdings, and consistent with the recent scientific findings on the subject, we agree with the New Jersey Supreme Court that such generalized jury instructions are inadequate to apprise the jury of the various ways in which eyewitness identification testimony may be unreliable. We also agree with the New Jersey Supreme Court that revised, enhanced jury instructions reflecting the substance of those scientific findings—instructions that would go well beyond the instructions that ordinarily have been given on eyewitness identifications, and which may be given immediately following the eyewitness identification testimony at issue; see, e.g., *State* v. *Henderson*, supra, 208 N.J. 296—ultimately may render proffered expert testimony redundant or otherwise unnecessary in some cases. See C. Sheehan, note, "Making the Jurors the 'Experts': The Case for Eyewitness Identification Jury Instructions," 52 B.C. L. Rev. 651, 689 (2011) ("[Although jury instructions on eyewitness identification may prove to be more efficacious than expert testimony], many of the instructions now given by courts are ineffective at apprising jurors of the factors that can affect eyewitness accuracy. Thus, the content and presentation of eyewitness instructions must be changed in such a way as to increase their effectiveness. . . . [P]sychological research should . . . be included in [the instructions in] language understandable to lay jurors."). In the present case, however, the defendant did not seek such enhanced or focused jury instructions. We believe, moreover, that the proper approach to this issue is to leave the development of any such jury instructions to the sound discretion of our trial courts on a case-by-case basis, subject to appellate review.

[28] See *People* v. *McDonald*, 37 Cal. 3d 351, 370–71, 690 P.2d 709, 208 Cal. Rptr. 236 (1984) ("[Expert testimony on the reliability of eyewitness identifications] does not seek to take over the jury's task of judging credibility: as explained . . . [such testimony] does not tell the jury that any particular witness is or is not truthful or accurate in his identification . . . . Rather, it informs the jury of certain factors that may affect such an identification in a typical case; and to the extent that it may refer to the particular circumstances of the identification before the jury, such testimony is limited to [an explanation of] the potential effects of those circumstances on the powers of observation and recollection of a typical eyewitness. The jurors retain both the power and the duty to judge the credibility and weight of all testimony in the case, as they are told [in] a standard instruction."), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); see also *Benn* v. *United States*, 978 A.2d 1257, 1274 (D.C. 2009) (expert testimony on reliability of eyewitness identifications does not usurp function of jury); cf. *State* v. *Iban C.*, 275 Conn. 624, 635, 881 A.2d 1005 (2005) ("[I]n cases that involve allegations of sexual abuse of children . . . expert testimony of reactions and behaviors common to victims of sexual abuse is admissible. . . . Such evidence assists a jury in its determination of the victim's credibility by explaining the typical consequences of the trauma of sexual abuse on a child. . . . It is not permissible, however, for an expert to testify as to his opinion of whether a victim in a particular case is credible or whether a particular victim's claims are truthful." [Citations omitted.]); *State* v. *Borrelli*, 227 Conn. 153, 174, 629 A.2d 1105 (1993) ("[The] expert testimony was properly admitted to assist the jury in understanding, not whether [the victim] was a credible witness on the witness stand, but whether her conduct . . . was consistent with the pattern and profile of a battered woman. . . . [Such] expert testimony [does] not invade the province of the jury in [the determination of] the credibility of witnesses." [Citation omitted; internal quotation marks omitted.]).

[29] See, e.g., *Perry* v. *New Hampshire*, U.S. , 132 S. Ct. 716, 728, 181 L. Ed. 2d 694 (2012) ("[w]e do not doubt either the importance or the fallibility of eyewitness identifications"); *United States* v. *Wade*, 388 U.S. 218, 228, 87 S. Ct. 1926, 18 L. Ed. 2d 1149 (1967) ("The vagaries of eyewitness

identification are well-known; the annals of criminal law are rife with instances of mistaken identification. [United States Supreme Court] Justice [Felix] Frankfurter once said: 'What is the worth of identification testimony even when uncontradicted? The identification of strangers is proverbially untrustworthy. The hazards of such testimony are established by a formidable number of instances in the records of English and American trials. These instances are recent—not due to the brutalities of ancient criminal procedure.' "); see also *Perry* v. *New Hampshire*, supra, 730–31 (Sotomayor, J., dissenting) ("[the United States Supreme] Court has long recognized that eyewitness identifications' unique confluence of features—their unreliability, susceptibility to suggestion, powerful impact on the jury, and resistance to the ordinary tests of the adversarial process—can undermine the fairness of a trial"); *Watkins* v. *Sowders*, 449 U.S. 341, 352, 101 S. Ct. 654, 66 L. Ed. 2d 549 (1981) (Brennan, J., dissenting) (" '[Eyewitness] testimony is likely to be believed by jurors, especially when it is offered with a high level of confidence, even though the accuracy of an eyewitness and the confidence of that witness may not be related to one another at all. All the evidence points rather strikingly to the conclusion that there is almost nothing more convincing than a live human being who takes the stand, points a finger at the defendant, and says "That's the one!" ' "); *Kampshoff* v. *Smith*, 698 F.2d 581, 585 (2d Cir. 1983) ("There can be no reasonable doubt that inaccurate eyewitness testimony may be one of the most prejudicial features of a criminal trial. Juries, naturally desirous to punish a vicious crime, may well be unschooled in the effects that the subtle compound of suggestion, anxiety, and forgetfulness in the face of the need to recall often has on witnesses. Accordingly, doubts over the strength of the evidence of a defendant's guilt may be resolved on the basis of the eyewitness' seeming certainty when he points to the defendant and exclaims with conviction that veils all doubt, '[T]hat's the man!' "); *State* v. *Ledbetter*, 275 Conn. 534, 577, 881 A.2d 290 (2005) ("courts are not blind to the inherent risks of relying on eyewitness identification"), cert. denied, 547 U.S. 1082, 126 S. Ct. 1798, 164 L. Ed. 2d 537 (2006); *State* v. *Tatum*, 219 Conn. 721, 733, 595 A.2d 322 (1991) ("[t]he dangers of misidentification are well known and have been widely recognized by this court and other courts throughout the United States"); *State* v. *Wright*, 147 Idaho 150, 157, 206 P.3d 856 (App. 2009) ("[i]n recent years, extensive studies have supported a conclusion that eyewitness misidentification is the single greatest source of wrongful convictions in the United States").

[30] See, e.g., Eyewitness Identification Task Force, Report to the Judiciary Committee of the Connecticut General Assembly (February 8, 2012) p. 4 ("Mistaken eyewitness identification is the leading cause of wrongful convictions in the United States. It is now undisputed that nationwide, within the past [fifteen] years, 289 persons convicted of serious crimes—mainly murder and sexual assault—have been exonerated of those crimes by DNA evidence. More than 75 percent of those convictions rested, in significant part, on positive, but false, eyewitness identification evidence. These figures do not include, of course, the many convictions for crimes that did not involve DNA evidence; e.g., the drive-by shootings, the street muggings, the convenience store robberies, and the homicides and sexual assaults for which no DNA evidence may be available."); see also S. Gross et al., "Exonerations in the United States 1989 Through 2003," 95 J. Crim. L. & Criminology 523, 542 (2005) (citing study demonstrating that 64 percent of wrongful convictions involved at least one erroneous eyewitness identification); J. McMurtrie, "The Role of the Social Sciences in Preventing Wrongful Convictions," 42 Am. Crim. L. Rev. 1271, 1275 n.17 (2005) (citing to study revealing that erroneous identifications have accounted for up to 86 percent of convictions of persons ultimately exonerated by DNA testing); S. Thompson, "Eyewitness Identifications and State Courts as Guardians Against Wrongful Conviction," 7 Ohio St. J. Crim L. 603, 634 (2010) ("[m]istaken identification continues to present a serious danger of convicting innocent persons, especially in violent crime cases, and meanwhile the guilty perpetrators remain at large unbeknownst to the public"); G. Wells et al., supra, 22 Law & Hum. Behav. 605 ("[i]n addition to the experimental literature, cases of proven wrongful convictions of innocent people have consistently shown that mistaken eyewitness identification is responsible for more of these wrongful convictions than all other causes combined").

[31] We note that, in *Perry* v. *New Hampshire*, U.S. , 132 S. Ct. 716, 181 L. Ed. 2d 694 (2012), the United States Supreme Court recently rejected a claim that constitutional principles of due process "require a preliminary judicial inquiry into the reliability of an eyewitness identification" even

"when the identification was not procured under unnecessarily suggestive circumstances arranged by law enforcement." Id., 730. Although recognizing both "the importance [and] the fallibility of eyewitness identifications"; id., 728; the court concluded that "[t]he fallibility of eyewitness evidence does not, without the taint of improper state conduct, warrant a due process rule requiring a trial court to screen such evidence for reliability before allowing the jury to assess its creditworthiness." Id. In explaining its "unwillingness to enlarge the domain of due process" by requiring such a preliminary inquiry; id.; the court identified the "other safeguards built into our adversary system that caution juries against placing undue weight on eyewitness testimony of questionable reliability"; id.; including cross-examination, "[e]yewitness-specific jury instructions" *and* "expert testimony on the hazards of eyewitness identification evidence." Id., 728–29. Accordingly, our approach to eyewitness identification testimony is exactly the sort of approach that *Perry* encourages. See id., 723 ("The [c]onstitution . . . protects a defendant against a conviction based on evidence of questionable reliability, not by prohibiting introduction of the evidence, but by affording the defendant means to persuade the jury that the evidence should be discounted as unworthy of credit"). There consequently is no merit to the assertion of the concurring justice that our opinion is "inconsistent" with *Perry*, nor is there any basis for the concurring justice's characterization of *Perry* as taking a "more balanced approach" to the issue now before this court. In fact, the concurring justice's characterization of *Perry* is in our view inaccurate. The question before the court in *Perry* was whether fallible eyewitness identification testimony ever could be completely excluded, not how such testimony, once admitted, could best be challenged. The comparative value of the various methods of challenging the accuracy of eyewitness identification testimony simply was not an issue before the court.

[32] The concurring justice's insistence that "trial courts should be encouraged to give [focused] jury instructions in all cases involving eyewitness identifications [when] specific issues have been raised regarding their unreliability" strikes us as an implicit acknowledgment that juries always should be presumed to be ignorant of the key scientific facts pertaining to the fallibility of eyewitness identifications—scientific facts that cross-examination and closing argument do not suffice to bring to light.

[33] We note that, in *State* v. *Outing*, 298 Conn. 34, 3 A.3d 1 (2010), cert. denied, U.S. , 131 S. Ct. 1479, 179 L. Ed. 2d 316 (2011), this court observed that the use of expert testimony on the reliability of eyewitness identifications "calls into question the soundness of the test set forth by the United States Supreme Court in *Neil* v. *Biggers*, 409 U.S. 188, 93 S. Ct. 375, 34 L. Ed. 2d 401 (1972), pursuant to which trial courts determine whether an identification can be deemed reliable despite a finding [that the procedure used by the police in obtaining the identification was unnecessarily suggestive]. Under the *Biggers* test, the trial court considers 'whether under the "totality of the circumstances" the identification was reliable . . . . [T]he factors to be considered in evaluating the likelihood of misidentification include the opportunity of the witness to view the criminal at the time of the crime, the witness' degree of attention, the accuracy of the witness' prior description of the criminal, the level of certainty demonstrated by the witness at the confrontation, and the length of time between the crime and the confrontation.' Id., 199–200. As is self-evident, several of these considerations relate to the assumptions that the studies have called into question." *State* v. *Outing*, supra, 61–62; see also *Manson* v. *Brathwaite*, 432 U.S. 98, 114, 97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977) (reaffirming *Biggers* factors). Moreover, in *State* v. *Ledbetter*, 275 Conn. 534, 881 A.2d 290 (2005), cert. denied, 547 U.S. 1082, 126 S. Ct. 1798, 164 L. Ed. 2d 537 (2006), this court reaffirmed the validity of those factors for purposes of the Connecticut constitution; see id., 569 ("our state constitution does not require that we abandon the *Biggers* factors as the appropriate factors for consideration in determining whether an unnecessarily suggestive identification procedure is, nevertheless, reliable"); a determination that was premised in part on our reservations about scientific studies that we now find persuasive. See id., 568 (concluding that scientific studies on relationship between confidence and accuracy of identification were "not definitive"). We recognize the tension between our reasoning and analysis in the present case and the reasoning and analysis of *Biggers* and *Ledbettter*. We need not resolve that tension in the present case, however, because *Biggers* and *Ledbetter* involved alleged due process violations predicated on the state's use of unnecessarily suggestive identification procedures, whereas the present case involves the admissibility of expert testimony on the fallibility of eyewitness identifica-

tion testimony.

[34] We acknowledge, of course, that, because "[s]tare decisis, although not an end in itself, serves the important function of preserving stability and certainty in the law . . . a court should not overrule its earlier decisions unless the most cogent reasons and inescapable logic require it." (Citation omitted; internal quotation marks omitted.) *State* v. *Lockhart*, 298 Conn. 537, 549, 4 A.3d 1176 (2010). For the reasons that we have articulated, however, we conclude that this demanding standard for overruling prior precedent has been satisfied in the present case.

[35] With respect to a future claim that some other variable relating to eyewitness identification properly is the subject of expert testimony, a trial court will be required to determine whether the party proffering the expert testimony has established that it is both scientifically valid and relevant to the issues presented by the case.

[36] We note that some courts have held that expert testimony on eyewitness identifications is not subject to the more rigorous standard of admissibility reserved for the kind of scientific evidence to which the *Porter* methodology applies. See, e.g., *People* v. *McDonald*, 37 Cal. 3d 351, 373, 690 P.2d 709, 208 Cal. Rptr. 236 (1984) (rules governing admission of scientific evidence do not apply to testimony by "a qualified psychologist who will simply explain to the jury how certain aspects of everyday experience shown by the record can affect human perception and memory, and through them, the accuracy of eyewitness identification testimony"), overruled in part on other grounds by *People* v. *Mendoza*, 23 Cal. 4th 896, 4 P.3d 265, 98 Cal. Rptr. 2d 431 (2000); *State* v. *Whaley*, 305 S.C. 138, 142, 406 S.E.2d 369 (1991) (same). Of course, *Porter* does not apply to all expert testimony involving scientific principles and knowledge. "[E]vidence, even evidence with its roots in scientific principles, which is within the comprehension of the average juror and which allows the jury to make its own conclusions based on its independent powers of observation and physical comparison, and without heavy reliance [on] the testimony of an expert witness, need not be considered scientific in nature for the purposes of evidentiary admissibility." (Internal quotation marks omitted.) *State* v. *Griffin*, 273 Conn. 266, 278, 869 A.2d 640 (2005). Although not all of the methods underlying all of the studies pertaining to eyewitness identification are beyond the ken of the average juror such that the juror necessarily would be unable to evaluate meaningfully expert testimony with respect to the conclusions to be drawn from those studies, we nevertheless agree with the trial court in *State* v. *Maner*, Superior Court, judicial district of Waterbury, Docket No. UWY-CR-08-0375803-T (July 19, 2011), that the methodology involved is sufficiently complex to warrant application of the *Porter* test. See id. ("Neither powers of observation, comparison nor common sense can be used by the jury to assess the validity of the methods underlying the research regarding the reliability of eyewitness identifications. Researchers conduct studies according to the scientific method. After researchers conduct numerous studies regarding a hypothesis, other researchers study the results of those studies through a meta-analysis. . . . The average lay juror does not routinely develop, perform, or evaluate scientific experiments involving independent variables, dependent variables, and control groups. Additionally, the average lay juror is not trained to find statistical significance over numerous studies. Therefore, the average juror is incapable of assessing the reliability of the methodology regarding these innovative scientific techniques.").

[37] Of course, these are the findings and conclusions that a qualified expert would provide to the jury in the absence of the court's focused jury instructions on the eyewitness identification issue or issues presented by the case.

[38] These general principles also apply to the issue of whether a particular variable continues to fall outside the common knowledge or understanding of the average juror.

[39] See *Haliym* v. *Mitchell*, 492 F.3d 680, 706 (6th Cir. 2007) ("The primary concern expressed in cases discussing the problems with eyewitness identification relates to a witness observing and subsequently identifying a stranger. . . . Witnesses are very likely to recognize under any circumstance the people in their lives with whom they are most familiar, and any prior acquaintance with another person substantially increases the likelihood of an accurate identification." [Citation omitted; internal quotation marks omitted.]); *Rosario* v. *Ercole* 582 F. Sup. 2d 541, 581 (S.D.N.Y. 2008) ("[e]yewitness identification by a stranger is even more susceptible to error than identification by someone who is otherwise familiar with an alleged perpetrator"), aff'd, 601 F.3d 118 (2d Cir. 2010), cert. denied sub nom. *Rosario* v. *Griffin*, U.S. , 131 S. Ct. 2901, 179 L. Ed. 2d 1262 (2011); *Bonnell* v. *Mitchel*,

United States District Court, Docket No. 00CV250 (N.D. Ohio February 4, 2004) ("The danger in eyewitness testimony is most pronounced when strangers observe the unexpected commission of a crime and sometime later try to describe people and events involved in the crime. . . . This is not such a case. In this case, while not initially admitting it, both [eyewitnesses] were acquainted with [the defendant] and recognized him as the murderer. Their testimony was therefore not subject to the unreliability often present when strangers attempt to describe and identify persons . . . involved in a crime." [Citation omitted.]); *Hager* v. *United States*, 856 A.2d 1143, 1148–49 (D.C. 2004) ("[T]he studies on which [the expert witness] would have relied concern the reliability of a stranger identification, not an identification of a person known to the witness, as in this case. Thus, it is highly questionable on this record whether the existence or state of scientific knowledge in the area of psychological studies relating to the correlation between witness confidence and accuracy of non-stranger identifications would have permitted a reasonable opinion to be asserted by [the expert witness], and hence, as the trial court declared, it is also doubtful that [his] testimony would have been helpful to the jury."), amended in part on other grounds, 861 A.2d 601 (D.C. 2004), cert. denied, 547 U.S. 1035, 126 S. Ct. 1609, 164 L. Ed. 2d 325 (2006); *Commonwealth* v. *Christie*, 98 S.W.3d 485, 491 (Ky. 2002) ("the particular facts of this case—that [1] eyewitness identification by strangers of a different race was the main and most compelling evidence against [the defendant], [2] there was no other direct evidence against [the defendant], and [3] the circumstantial evidence against [the defendant] was weak—make exclusion of [the expert] testimony [on the reliability of eyewitness identifications] . . . an abuse of discretion"); *State* v. *Clopten*, supra, 223 P.3d 1113 ("The research on eyewitness identifications, for example, almost exclusively focuses on individuals who are attempting to identify a stranger. If the eyewitness is identifying someone with whom he or she has been acquainted over a substantial period of time [for example, a family member, long-time business associate, neighbor, or friend], then expert testimony is not likely to assist the jury in evaluating the accuracy of a [witness'] testimony.").

[40] As we have indicated, Robinson had known the defendant "for a while" and had "had words" with him "a couple of months" before the shooting. Robinson recognized the defendant when he saw him in the bar before the shooting and had "a bad feeling and knew something was going to happen." Olivero had known the defendant for approximately ten years and knew him by name. Baldwin had seen the defendant as a regular customer in the donut shop where she had worked for more than one and one-half years before the shooting and knew him by name. Gomez previously had lived with the defendant for "quite some time . . . ."

[41] The defendant argues that "[f]amiliarity is merely one factor to be considered along with negative factors such as distance, lighting, and duration, which all degrade perception and memory." These factors, however, are within the knowledge of an average juror and can be explored on cross-examination. As we have indicated, factors such as stress and exposure to postevent information about the perpetrator are, for obvious reasons, far less likely to affect the reliability of an identification when the eyewitness identifies someone whom he or she knows.

In their amicus curiae brief, Neil Vidmar, Kenneth Deffenbacher, Solomon Fulero, Harmon M. Hosch, Rod Lindsay, Roy S. Malpass, and J. Don Read argue that an eyewitness' familiarity with the subject of an identification should not be a reason to exclude expert testimony on the reliability of eyewitness identifications because research has shown that the risk of misidentification can still be significant. They rely primarily on studies in which the eyewitnesses interacted with strangers for varying lengths of time. Under certain circumstances, eyewitnesses who had interacted with strangers for longer periods were more prone to misidentification when presented with a photographic array. Although we do not have reason to question the scientific validity of these studies, we conclude that they have little relevance to the facts of the present case, in which the defendant was well-known before the crimes to all the eyewitnesses except Lang, and in which the eyewitnesses identified the defendant as the shooter before being presented with a photographic array.

[42] Lang testified that he might have seen the defendant before but he "wouldn't necessarily recognize [him]" and that he "wasn't associated with [him] . . . ."

[43] In support of the concurring justice's contrary conclusion that the trial court did not abuse its discretion in precluding Morgan's expert testimony,

the concurring justice both mischaracterizes the basis of that testimony and relies on outdated assumptions about the efficacy of the traditional methods of challenging eyewitness identifications—assumptions that we reject in this opinion and that actually are at odds with the concurring justice's own view that "trial courts should be encouraged to give [focused jury] instructions in all cases involving eyewitness identifications [when] specific issues have been raised regarding their unreliability." The concurring justice's discussion of Morgan's proposed testimony gives the inaccurate impression that that testimony would have drawn exclusively on Morgan's own research, when in fact *it is undisputed that Morgan was qualified to testify on the basis of his general expertise on the science of eyewitness identifications*. Thus, regardless of whether the concurring justice is correct that the trial court did not abuse its discretion in deeming Morgan's military studies irrelevant and unreliable—an issue that we need not resolve—the concurring justice offers no reason to uphold the trial court's decision to preclude Morgan's testimony altogether. Even if it was reasonable for the trial court to preclude Morgan from testifying about his military studies, the concurring justice nowhere convincingly explains why it was reasonable for the trial court to preclude Morgan from testifying about *everything else*. The concurring justice also accords no weight to the fact that Morgan's testimony would have covered not just the effects of stress on memory—the subject of Morgan's military studies—but also the phenomenon of retrofitting and the relationship between confidence and accuracy, or lack thereof. The concurring justice therefore gives us no reason to doubt our conclusion that expert testimony on these vital issues would have been relevant, reliable and helpful to the jury.

[44] Indeed, it has been argued that a contrary rule would impermissibly infringe on a defendant's constitutionally protected right to present a defense. See, e.g., *Patterson* v. *United States*, 37 A.3d 230, 250 (D.C. 2012) (Glickman, J., concurring in the result) ("at least in criminal cases, a rule of evidence permitting the trial judge to bar a defendant from introducing relevant and otherwise admissible expert testimony [on the fallibility of eyewitness identification testimony] merely because the judge perceives the prosecution's proffered opposing evidence to be strong would raise a serious constitutional question . . . [concerning] the defendant's . . . right to a meaningful opportunity to present a complete defense"); cf. *Holmes* v. *South Carolina*, 547 U.S. 319, 321, 330–31, 126 S. Ct. 1727, 164 L. Ed. 2d 503 (2006) (rejecting as unconstitutional "an evidence rule under which the defendant may not introduce proof of third-party guilt if the prosecution has introduced forensic evidence that, if believed, strongly supports a guilty verdict," explaining that, "[j]ust because the prosecution's evidence, *if credited*, would provide strong support for a guilty verdict, it does not follow that evidence of third-party guilt has only a weak logical connection to the central issues in the case," and noting that, when "the credibility of the prosecution's witnesses or the reliability of its evidence is not conceded, the strength of the prosecution's case cannot be assessed without making the sort of factual findings that have traditionally been reserved for the trier of fact" [emphasis in original]).

No matter what the proper resolution of the constitutional issue, we of course do not share the concurring justice's willingness to permit trial courts to bar expert testimony when there is "substantial corroborating evidence" of the defendant's guilt, such as "uncontested DNA evidence . . . ." The concurring justice specifically notes that, "in cases in which the record contains [substantial corroborating] evidence, the importance of expert testimony is correspondingly diminished and would be an unnecessary distraction to the jury." Notwithstanding the obvious point that a defendant implicated by uncontested DNA evidence would almost certainly *concede* the issue of identity and contest some other aspect of the state's case, such as mens rea, the concurring justice's preferred approach founders on the fact that the law of evidence does not grant trial courts the liberty to decide what evidence is admissible *based, either in whole or in part, on the strength of the state's case*. Even if we were to adopt the concurring justice's preferred approach and permit trial courts to bar expert testimony on eyewitness identification in consideration of the fact that there is substantial corroborating evidence of the defendant's guilt, that would make no difference to our abuse of discretion analysis in this case because the evidence corroborating Lang's identification of the defendant as the person who shot Robinson was not overwhelming. The transcript reveals the following relevant facts. Although several people who knew the defendant testified at trial that they had seen him at the bar in the early morning hours of October 9, 2004, not

long before Robinson was shot, only Lang and Robinson actually witnessed the shooting, and, initially, neither Robinson nor Lang identified the defendant as the shooter. After being transported to Rhode Island Hospital, Robinson did tell the police that the defendant, with whom he was acquainted, had shot him. The defendant sought to discredit Robinson's statements to the police, however, by establishing, first, that the police had removed plastic bags containing several rocks of crack cocaine from Robinson's mouth while he was still at The William W. Backus Hospital in Norwich and, second, that hospital personnel had administered morphine to Robinson at Rhode Island Hospital before Robinson made his statement to the police implicating the defendant in the shooting. Furthermore, and most significant, Robinson testified at trial that he never had identified the defendant as his assailant, and he insisted at trial that he did not know who had shot him. Thus, although Robinson knew the defendant and told the police that the defendant was the shooter, Robinson subsequently changed his story and testified under oath that he could *not* identify the person who had shot him. (Because Robinson's trial testimony was inconsistent with the statement that he had given to the police at Rhode Island Hospital, the state was permitted to use Robinson's statement as substantive evidence pursuant to *State* v. *Whelan*, 200 Conn. 743, 753, 513 A.2d 86, cert. denied, 479 U.S. 994, 107 S. Ct. 597, 93 L. Ed. 2d 598 [1986]). In addition, the evidence revealed that Robinson was a crack cocaine user who also was under the influence of morphine when he spoke to the police. In light of Robinson's obvious credibility issues, it would not be fair to say that, apart from Lang's identification of the defendant, there was substantial evidence of the defendant's guilt with respect to the assault on Robinson.

[45] The defendant makes no claim—and there is no basis for such a claim—that the impropriety was of constitutional magnitude.

[46] Robinson's statement provides in relevant part: "As I walked in [to the bathroom at the bar], someone spun me around. That person had a gun in his hand. I know this person as Fats [the defendant's nickname]. I thought he was going to shoot me, so I grabbed him, and we started to wrestle for the gun. Then I saw a flash and heard the gunshot. I fell down on the ground and was a little dazed.

"I recognized his mustache, braids and face. I have known him for a while and had words with him a couple of months ago. When I walked in the bar, Fats was already there. I had a bad feeling and knew something was going to happen.

"I looked at a lineup of eight men and recognized Fats in one of the photo[graphs]. I made a mark on the page over his face."

[47] In addition, as we discuss more fully in part II of this opinion, defense counsel introduced into evidence still photographs taken from a video recording depicting the defendant several hours before the shootings that were entirely consistent with Lang's description of the person who shot Robinson as wearing "a black quilted jacket, possibly North Face."

[48] Although the jury instructions in this case were modestly helpful, they nevertheless were inadequate as a substitute for expert testimony, in large part because they did not emphasize that stress may greatly undermine the reliability of an eyewitness' identification and because they did not allude to any of the relevant eyewitness identification science.

[49] The concurring justice takes stock of the reasons that we have given for concluding that the trial court's decision to exclude Morgan's testimony was harmless and asserts that "these are the very reasons why the majority should have concluded that the trial court did not abuse its discretion in the first place . . . ." This assertion is wholly meritless because it confuses the standard for harmless error analysis with the standard for evidentiary admissibility. The general standard for evidentiary admissibility is whether some piece of evidence is *relevant*; see Conn. Code Evid. § 4-2; that is, whether the evidence has "any tendency to make the existence of any fact that is material to the determination of the proceeding more probable or less probable than it would be without the evidence." Conn. Code Evid. § 4-1. By contrast, the standard for harmless error analysis is whether the trial court's exclusion of some admissible—and therefore relevant—evidence *probably affected the verdict*. See, e.g., *State* v. *Orr*, supra, 291 Conn. 663. Because evidence can have a tendency to make a material fact more or less probable without being such that its exclusion probably affected the verdict, a trial court's decision to exclude some evidence could be erroneous yet harmless, as the trial court's decision to exclude Morgan's testimony was in the present case.

Nevertheless, we do not share the concurring justice's fear that our expla-

nation why the trial court's decision to exclude Morgan's testimony was erroneous yet harmless contains "baffling contradictions" that will "bewilder" trial courts and cause "unnecessary confusion." We do not share this fear because we are confident that trial courts appreciate the difference between the standard for evidentiary admissibility and the standard for harmless error analysis. The concurring justice would effectively collapse these two standards by permitting a trial court to exclude otherwise admissible expert testimony after considering "the totality of the circumstances," an approach that is far more likely than ours to confuse trial courts about the standard that they must apply in determining whether to admit expert testimony on eyewitness identifications. Indeed, under the concurring justice's proposed approach, even after *all* of the *Porter* requirements for the admissibility of expert scientific testimony have been fully satisfied, the trial court then would have to consider the "totality of the circumstances" to decide whether to admit the testimony. Such an approach would impose an unprecedented distortion on the law of scientific evidence in this state, subjecting expert testimony on eyewitness identifications to an additional tier of review *beyond* the *Porter* test, a tier of review to which the law subjects *no other variety of scientific evidence*. To the extent that the concurring justice does not in fact propose to change the law of scientific evidence but instead merely means to observe that, under "Connecticut's existing legal framework for the admission of relevant evidence"; footnote 12 of the concurring opinion; the trial court *already* has the discretion to exclude relevant expert testimony "on the ground of undue delay, waste of time, needless presentation of cumulative evidence or jury confusion"; id.; we wholly agree with everything that the concurring justice says. Nothing in this opinion should be construed as depriving the trial court of its existing discretion to exclude relevant expert testimony on such grounds, notwithstanding the concurring justice's contrary assertion that we fail to "acknowledg[e] that [a] trial court . . . may exclude relevant evidence under certain circumstances and in the exercise of its discretion." Id. If the concurring justice means to do no more than sing a paean to § 4-3 of the Connecticut Code of Evidence, then we gladly lend our voices. See Connecticut Code of Evidence § 4-3 ("[r]elevant evidence may be excluded if its probative value is outweighed by the danger of unfair prejudice or surprise, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time or needless presentation of cumulative evidence").

[50] The reason for the late discovery and disclosure of the video recording does not appear in the record.

[51] Defense counsel contended that the video recording would have been useful in cross-examining the eyewitnesses previously identified in this opinion, as well as Frederick Barrett, who described the shooter of Williams and Ross as wearing dark clothing, Kathleen Barrett, who described the shooter as possibly wearing "something light," Sandra Donahue, who saw the defendant at the bar on the night of the shooting but could not describe what he was wearing, Niko Psysk, who described the defendant as wearing "a hooded sweatshirt" at the bar, Catrice Williams, who testified that the defendant was wearing a black or navy "bubble coat" at the bar, and various witnesses who had given inconsistent testimony about the hairstyles of the defendant and the shooter and about whether the shooter had worn a cast on his arm.

[52] Defense counsel argued before the trial court that he would have asked the eyewitnesses whether the defendant's appearance in the video recording was consistent with what they had observed on the night of the shootings. As the defendant recognizes, it is quite possible that the witnesses would have responded affirmatively and explained the apparent discrepancies. For example, Olivero testified that the defendant had been wearing light blue sweatpants, a white tee shirt, and a black or dark blue bomber jacket. Although the still photographs from the video recording seem to show that the defendant had been wearing blue jeans and a dark jacket, the blue jeans were baggy and appeared to have worn areas that were light in color. In addition, one of the photographs appears to show the collar of a light colored tee shirt under the dark jacket. Moreover, there is no guarantee that the police officers or Lang would have conceded on cross-examination that the police officers had shared information with Lang from the video recording. If they had denied that that was the case, the defense would have succeeded only in emphasizing that Lang's description of the person who shot Robinson as wearing a "black quilted jacket, possibly North Face," was entirely consistent with the defendant's appearance on the video recording.